Discourse and Communication for Sustainable Education

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This issue of the Journal consists of ten articles related to various dimensions of sustainability. Particular focus of several papers is on technologies in the educational process as well as to such contemporary issues as the refugee issue, and the climate change. The papers demonstrate a range of methodologies employed ranging from case studies to quantitative inquires. We would like to thank all the members of the editorial board for their hard work in reviewing the articles that we received from various parts of the world.

Ilene R. Berson, Michael J. Berson, and Suzette Kelly-Williams in their paper explore the role of early childhood education in constructing a sustainable society. In particular, increasing global attention has focused on how early childhood may help alleviate poverty among children and their families and promote economic growth. Part of this discourse involves the use of technology as a means to improve the quality of early childhood education and optimize the potential for information and communication technology (ICT) to serve as an agent of development. Jamaica’s appropriation of technology as part of the early childhood development agenda has emulated Western notions of success. However, the introduction of technology innovations has cultural implications. This study describes and explains perceptions, beliefs and practices about technology among four early childhood teachers in a Jamaican infant school. The findings consider issues for capacity building, including teacher professional development in Jamaica.

The paper by Ahmet Naci Çoklar and Işıl Kabakçı Yurdakul reflect on technology integration as one of the dimensions of sustainable development in education. Teachers’ ability to adapt themselves to rapidly developing technologies is applicable to learning environments and is connected with technology integration. This study focuses on the study of the teachers who consider themselves successful in integrating technology. The article reveals participants’ main reason to use technology, namely the improvement of the quality of education. Early phases of technology integration efforts cover access to technology and efficacy to use it properly, while more advanced phases also include efficiencies regarding learning environments. Also, the results of the study indicate that the teachers participating in the study employ a teacher-centered approach to technology integration rather than a student-centered approach.

Deniz Ateş, Gaye Teksöz and Hamide Ertepınar in their paper reflect on issue of a climate change by exploring underlying factors shaping or affecting beliefs of people needed for designing educational interventions for a change in individuals’ attitudes and behaviours. The authors stress the need to improve educational programs and curriculum in higher education in relation to the global climate change. They believe that higher education institutions should take the responsibility to educate the young generation in a way to equip them with necessary knowledge, skills and competencies that enable them to encounter the future challenges.

The paper by Wiseman and O’Gorman examines the challenges associated with educating refugee and asylum seeker students in mainstream Australian high schools. The thematic grouping of staff observations seek to articulate the cultural considerations that likely influence the sustainability of an inclusive and liberating approach to integrative school enrolment. Applied, these categories highlight specific concerns relating to students’ age (employment/education), independent living status (social services), previous
trauma history (medical), expressive and receptive communication (language skills) and exposure to past illegal treatment and ongoing restrictions (legal).

Rūta Bogdanova, Maruta Siliņa, & Ruta Renigere in their paper reflect on how the ecological approach is implemented in the process of education and health care practice and how it complies with the guidelines of a sustainable development as well as a lifelong and life-wide learning. They reflect on the use of an ecological approach in a health care practice as viewed through the process–person–context–time model. The authors offer a deep ecology and ecosophy as philosophical and theoretical foundation for the development process of the ecological approach in education and health care. The content analysis of students’ essays after completing the course: The Ecological Approach in Patient Care shows how the course aims to form and to develop ecological consciousness and ecological competence in the social, educational and health care environment.

The paper by Katharina Hiller and Barbara Reichhart presents the results of a quasi-experimental trial with civic education teachers-in-training (N=108) from Augsburg University, Germany concerning the development of professional competencies. Based on a model of political competence the researchers evaluated self-efficacy and interest of future teachers within the field of civic education. The research questions were: 1. How do self-efficacy beliefs of teachers-in-training in the context of sustainable development differ from their self-efficacy beliefs in other topics? 2. How does the inherent interest in the field of sustainable development differ from their self-efficacy beliefs in other topics? The results indicate that their self-efficacy in the field of sustainable development is low compared to other areas, although there is no significant difference in their level of interest in sustainable development compared to other topics.

The paper by Mohamad Saifudin Mohamad Saleh highlights about the pivotal roles of the two most prominent social actors, namely, the media and environmental non-governmental organizations (ENGOs) in environmental sustainability communication in Malaysia, particularly the roles in informing and educating the public about environmental sustainability issues and conducting research on environmental sustainability matters. Based on the result of the interview with 13 media and 11 ENGOs interviewees, this study discovered that the different background of organizations among the media and ENGOs has no influence on their roles in environmental sustainability communication. It is hoped that the result of this study can serve as a vital update and guideline for future researchers, especially in the new area of environmental sustainability communication in Malaysia.

In the paper by Aleksandra Sļahova, Māris Čačka, and Ilze Volunte, the authors reflect on the importance and dynamics of the development of primary school learners’ creative imagination in visual art lessons while depicting a portrait, and discuss the role of a visual art teacher’s role in organizing the educational process of developing learners’ creative imagination in a sustainable education process. They conclude that the development of learners’ creative imagination will be successful within the context of sustainable education, if learners’ skills, their creative potential and talent are purposefully developed within a learner-friendly environment.

Siebren Miedema points in his paper to the return of pedagogy as a counter-voice against the neo-liberal voices that have been very strong during the past decades in education. He interprets this as a hopeful sign for sustainable general education, for religious and worldview education as well as civic and moral education. Although mainly
theoretical, the paper also presents by means of a qualitative pilot study five voices of experts in the broad field of education who together provide a sophisticated picture of this comeback with a diversity of emphasis. Pedagogy is indeed back on the agenda and a kind of revitalization is taking place. However, the five experts provide different answers to the question who the most active actors are at the moment for realizing the pedagogical aspects in the educational domain. They also have different opinions on defining the constraints that might hinder the further realization of the pedagogical aspects in a practically, socially, and politically sustainable way.

In the paper by Fatemeh Irajzad and Hesamoddin Shahriari, the authors reflect on a case of female students in Iran and on the notion of stroke. In a broad sense, stroke is a unit of human recognition (Berne, 1988) which is roughly equivalent to teacher encouragement in the context of the current study. The stroking behavior of teachers might be influenced by several factors, including the socioeconomic status (SES) of students. The present study primarily aims to investigate the differences among female English language teachers at three different school districts (i.e., upper, middle, and lower socio-economic class) in Iran, pertaining to their stroking behavior. Moreover, this study aims to find out whether there is a significant correlation between teacher stroke and students’ GPA.

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Tablet Nuff but Life Still Rough: Technology for Early Childhood Sustainable Development in Jamaica

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Abstract
Early childhood education has a role to play in constructing a sustainable society. In particular, increasing global attention has focused on how early childhood may help alleviate poverty among children and their families and promote economic growth. Part of this discourse involves the use of technology as a means to improve the quality of early childhood education and optimize the potential for information and communication technology (ICT) to serve as an agent of development. Jamaica’s appropriation of technology as part of the early childhood development agenda has emulated Western notions of success. However, the introduction of technology innovations has cultural implications. This study describes and explains perceptions, beliefs and practices about technology among four early childhood teachers in a Jamaican infant school. The findings consider issues for capacity building, including teacher professional development in Jamaica.

Keywords: Jamaica, early childhood, sustainability, ICT4D, teacher professional development.

Introduction
Early childhood education has an important role to play in education for sustainable development (Årlemalm-Hagsér, 2014; Elliott, 2010; Hägglund & Samuelsson, 2009; Pipere, Veisson, & Salite, 2015; Salite, 2015; Samuelsson & Kaga, 2008; Somerville & Williams, 2015). A child’s early years (birth to age eight) align with critical windows of opportunity that are crucial for development of life skills to address challenges in our changing world (Davis, 2009). In addition to preparing learners to confront the causes and effects of economic, social and ecological problems (Bell, 2016), education for sustainability also honors the ‘local.’ Despite the globalized context that binds us with others in shared efforts to “eradicate poverty and hunger, restore human dignity and equality, protect the planet, manage natural resources, promote economic prosperity,
and foster peaceful, just and inclusive societies” (Britto, 2015, p. 3), local cultures, languages, histories and geographies anchor these transformational efforts within the neighborhoods and communities where implementation takes place.

The literature on early childhood education for sustainable development (ESD) suggests an integrated approach to embrace cultural practices and other influences on curriculum decisions (Otieno, 2008; Pearson & Degotardi, 2009). The early years are important for building cultural identity; hence, communities and their social structures play a powerful role in the success of early childhood care and education programs (Davies et al., 2009; Otieno, 2008). Consequently, ESD situates young children and their teachers as important stakeholders in the sustainable development agenda, and as knowledge is a key driver to achieve improvements in a country’s educational and economic outcomes, the early childhood integrated curriculum with emphasis on respect for self, others, and the environment is crucial to these efforts.

Part of the global discussion on the use of technology in early childhood classrooms also focuses on the potential for information and communication technology (ICT) to serve as an agent of development (Sutinen & Tedre, 2010; Unwin, 2009). Information and communication technologies for development (ICT4D) researchers suggest that ICT has the capacity to improve various aspects of life and may be used to help poor and marginalized people achieve economic growth (Avgerou, 2010; Unwin, 2009). The ICT4D efforts are based on Euro-American notions of development, which promote social economic, or political progress and growth (Selwyn, 2013; Unwin, 2009). Depending on the social, political, and economic contexts within which ICTs are introduced, they have the potential to exacerbate inequalities as well as reduce them. To determine the potentials of ICT in developing countries, Avegerou (2010) examined the cultural implications of technology innovations. ICT in developing countries involves the transfer of diffusion and socially embedded action; this action can either be a progressive or disruptive transformation. In keeping with the progressive transformative action of ICT in developing countries, acknowledgement of what is meaningful in the local context is crucial to the constructive adoption of technology innovations in developing societies (Avegerou, 2010; Selinger, 2009; Unwin, 2009). An understanding of how ICTs can be appropriated to achieve sustainable outcomes may help us design programs to empower disadvantaged communities by situating the ICTs in an environment that will support learning (Selinger, 2009; Unwin, 2009).

The Jamaican Context

Historically, infant schools in Jamaica are the oldest type of formal schooling for children four to six years old. The infant schools were influenced by the British Infant School model developed by Robert Owen. Formal schooling for young children in the early 19th century focused on children four to six years old in an attempt to get them ready for first grade. While some teachers in the basic school and kindergarten classrooms might not have a teaching diploma, all infant school teachers across the island are trained, and they are expected to be the mentors for their colleagues in neighboring basic schools.

Jennings (2001) describes an authoritarian teaching style in the Caribbean context, and student-centered learning is dissonant with the epistemology of Jamaican teachers and educational practice. This positionality of teacher and student roles is a remnant of
colonial discourses sustained over time. “Implicit cultural practices are passed down through on the job learning from older to newer teachers and less directly through the reproduction of the larger cultures in which [schools] are located” (Tobin, 2011, p. 4).

Research in early childhood classrooms in Jamaica is in its infancy (Jones, Brown, & Brown, 2011) even though early childhood education in Jamaica has a rich history dating back to the early 1930’s (Daley & Thompson, 2004). For example, the work of local pioneers, such as Henry Ward and Dudley Grant, influenced the conceptualization of teaching and learning for young children (Daley & Thompson, 2004). A dream of Ward and Grant was to provide Jamaican children with learning experiences that stimulate their imagination and early literacy skills. Over the years the dreams were translated into various initiatives by the Jamaican government through the auspices of the Ministry of Education (MoE, 2004) and have resulted in the transformation of the early childhood sector.

Early childhood education is a crucial component of Jamaica’s national development plan. There is emerging consensus in Jamaica regarding the early years of a child’s development as a critical period where educators lay the foundation for the development of members of its society (Planning Institute of Jamaica [PIOJ], 2009). Jamaica’s development plans include Vision 2030, which for long term planning recognizes early childhood development as a key strategic area for national development and for short term planning treats this area as a priority for implementation (PIOJ, 2009).

The Jamaican early childhood curriculum framework consists of six desirable learning outcomes for children: wellness, communication, valuing culture, intellectual empowerment, respect for self, others and the environment, and resilience. These learning outcomes are closely related to sustainable development, and the integration of technology has the potential to help children achieve the learning outcomes. For children to achieve the outcomes by the end of the preschool stage, their environment should provide activities and experiences that support their development over time (Dudley Grant Memorial Trust, 2010).

Jamaican education initiatives have invested in human capital to promote substantial returns (Jones et al., 2011). Simultaneously, the nation established an ICT4D Jamaican based network organization to define, promote and facilitate the use of information and communication technology in the development process. ICT4D Jamaica believes that the secret to prosperity for the country lies in the effective use of information for learning and earning (Caribbean Information Society Portal, 2010). Therefore, one of the ICT focus areas for ICT4D Jamaica is capacity building.

A Best Practices Guide for early childhood educators in Jamaica and the Jamaican Early Childhood Commission has fostered the use of technology in classrooms (Early Childhood Commission, 2009), mirroring the increased focus among researchers on strategies to facilitate the integration of technology into young children’s learning (Barron et al., 2011; National Association for the Education of Young Children [NAEYC] & the Fred Rogers Center for Early Learning, 2012; Parette, Quesenberry, & Blum, 2010; Rideout, 2011). In 2013, the government of Jamaica announced its Tablet in Schools (TIS) pilot project, which aligns with the objectives of Digital Education Services (2014). Digital Education Services provides technological tools and e-Learning solutions to reduce the cost of quality education in Jamaica and the Caribbean.

The tablet computers will be equipped with communication applications (Internet, email, Skype), reference books (Bible, world atlas, Jamaican yellow pages, eBooks),
news and magazines (National Geographic, BBC, CNN), word processing, and multimedia applications. The provision of up-to-date, cost efficient, and accessible information technology to students and teachers is part of Jamaica’s national development goal for a technology-enabled society by 2030. Developmentally appropriate integration of technology in the early childhood classroom can address issues of equity and access; foster inquiry, creativity, and problem solving; and promote children’s contact with nature (features of early childhood education for sustainable development).

**Theoretical Framework: Socio-Cultural Theory**

The integration of technology in early childhood classrooms differs across countries in light of their implicit cultural beliefs and practices. While European-American philosophies have retained a privileged position in the discourse on best practices in education (Pearson & Degotardi, 2009) and undervalued diverse cultural practices and beliefs (Tobin, 2011), this research elevates Jamaica’s context-specific values as central to the study of early childhood education. We engaged a socio-cultural stance in order to critically assess the potentials of information and communication technology for a middle-income society such as Jamaica. In order to investigate the cultural implications of the technology, Rogoff’s socio-cultural theory (1990) was applied to interpret the teachers’ perceptions, beliefs and practices about technology. According to Rogoff, individuals’ development can be understood only in light of the cultural circumstances of their communities.

**Purpose of the Study**

Despite Jamaica’s development plans for ESD and ICT4D, there is a paucity of empirical data about Jamaican teachers’ integration of technology into young children’s learning. According to Orlando (2009):

*If we are to properly study teachers’ practices mediated by ICT and how and why they change, there is a need to acknowledge aspects such as the role played by social, cultural and institutional representations of ICT, school organization of ICT, other stakeholders, and professional and personal experiences with ICT, as well as teachers’ beliefs regarding ICT in their role as a teacher in a school* (p. 35).

The purpose of this study was to shed light on teacher beliefs about the role of ICT in enhancing access to quality early childhood education and explore how their implementation strategies align with efforts to promote a sustainable Jamaican society. Our inquiry focused on four early childhood teachers in a Jamaican infant school, and the analysis highlighted locally-situated interpretations and practices with technology that may guide capacity building for teachers as they integrate technology into their early childhood classrooms.

**Methodology**

Based on in-depth interviews, the authors investigated four early childhood teachers’ epistemology about technology and their related practices. The participating teachers were from a Jamaican infant school in a large metropolitan area, where a number of
private companies often donated used computers for school computer labs. A three interview series was employed, which included focused life history; details of the experience; and reflection on meaning (Seidman, 2006). After the initial interview, transcripts were analyzed for emerging categories. The second interview of each participant was used to follow up on identified themes. The third interview focused on participants’ reflections on the meaning of their experiences with technology for young children’s learning.

Participants

The site selected was Beta Infant School (BIS) located in Southeast Jamaica. BIS was one of forty schools scheduled to receive Tablet PCs for teachers and students, and training of the teachers for implementation was planned for the fall semester. Children spend two years at this school and then transition into first grade at a primary school (grades one through six). The school is co-ed and boasts an enrollment of 384 four to six year olds. There are five classrooms for five year olds, and each teacher meets the basic qualifications, possessing a diploma in early childhood education from any of the notable teacher education programs on the island. The participating teachers were all experienced educators, with 6–18 years in the classroom.

Findings

The findings highlight the role of technology as a tool of instruction, culturally specific considerations for technology use, and identified professional development needs for capacity building. Each of these areas of focus contributes to our understanding of how implementation aligns with early childhood education for sustainable development.

Technology as a Tool of Instruction

First exploratory questionThe technology at BIS included a desktop computer in each class, DVD player, CD player, the teachers’ laptops, and a multimedia projector that was shared between classes. The teacher pupil ratio of 1:40 with one or two desktop computers made it challenging for teachers to provide opportunities for student engagement with the technology. As a result, the teachers defaulted to traditional use of the technology for their lessons. The teacher as agent had control over the technology, and the children were passive recipients of knowledge projected from a screen. Some efforts had been made for the children to use search engines to research topics, and videos had also been used to reinforce concepts. The children had opportunities to work with software, but it primarily emphasized drill and skill than the kind of engagement that would lead to critical thinking and discovery learning. In spite of this the teachers asserted that the affordances of additional technological resources would extend opportunities for children’s active engagement in their learning. One teacher described the affordances of technology for assessment, differentiated instruction, and children’s discovery learning. For example, she suggested that the tablet devices could offer enrichment activities to “top up” the lesson for advanced learners. However, she noted that teachers need

1 This is a pseudonym to protect the confidentiality of the school and its teachers.
additional expertise on how to use technology to address the individualized learning needs of children. Another teacher affirmed:

*Technology takes you places. As it concerns my job my work, technology for me means my children will become critical thinkers. They will be able to solve problems; they will be able to make decisions. So if my class decides, “Miss, instead of just reading a story to us, why not let us watch it on YouTube?” They can make decisions; they have choices, which give them some amount of autonomy and let them know that it’s not about me so much.*

One participant reflected on how technology had great potential to enhance children’s learning. She focused more on what technology might offer to support the children’s learning and autonomy.

*Teaching with technology means no more chalk and talk, no more boring lectures. It's no more teacher-centered; it's no more me–me and what I want, how I want and when I want. It means there are options. It means there is a whole big wide exciting world out there for you to explore.*

The teachers described the technology as a tool of instruction that added variety and excitement to lessons. Technology in the classroom enhances students’ access to understanding through the use of multi-modal representations of difficult to grasp concepts (Selinger, 2009). A participant noted how she used technology to capitalize on teachable moments with the children.

*I have had lessons where I recorded my children with my cell phone and have it played back to them, and they were excited. There are moments when I will see them. I like taking anecdotal records of them, memorable moments for me. For example, I saw two students doing a puppet show on their own; they were just doing a puppet show. We did the ethnic groups, and China was one of them. And they were doing a puppet show on their own in make believe Chinese language, and that was memorable for me. I captured that moment. I remember also a student, who liked banging the desk, and I used it as a teachable moment, and I went for a drum. I realized he liked to bang, so instead of reprimanding him about hitting the desk I used it as a teachable moment and a memorable moment for both of us. I videotaped it, with permission of course because we have a consent form for when we take pictures and videos in the school. I showed the video back to him, and he was speechless. He was covering his face the entire time because he could not believe it was him. And it was also an opportunity to say to mommy, “Mommy I captured your son on video, do you want to see what it looks like?” It was a moment for us to have conversation as teacher and parent. The parent responded, “Yes, you know Miss, I really need to buy him that drum because he is gifted in that way.” So I use my phone to record them, to play back for them, for them to see themselves what they look like and audibly for them to hear what they sound like.*

Several of the teachers aspired to transfer agency from themselves to the children and actively engage children in discovery. They touted the integration of technology as an effective tool to not only maintain children’s interest in activities by presenting concepts in novel ways but also support children’s journey to explore.
Children are very hands-on; they love interaction, they love to explore, they love to discover new things and as a result technology provides an avenue for all that to take place. Technology also allows them to be themselves and to help them to understand that nothing is wrong with making mistakes. Technology also excites children, stimulates them and makes them think, and solve problems. So the role of technology for me is one of discovery, excitement, stimulation and fun as it concerns young children and learning as well.

Nonetheless, the teachers’ articulation of their enacted practices with technology primarily focused on the transmission and acquisition of knowledge, emphasizing the readiness skills the five year olds needed for transition to first grade. The use of videos and games to reinforce concepts was a common strategy among the participants to enhance children’s literacy skills and vocabulary development. The teachers’ description of their practices with the technology stressed augmentation of the children’s skills to demonstrate mastery on national assessments, including reading readiness (i.e., letter knowledge and phonemic awareness), numeracy, oral language, writing and drawing. The Grade One Individual Learning Profile (GOILP) assessed these foundational skill areas of incoming first grade students; however, the results also were viewed as a comparative measure of the quality of early childhood education across school sites. As a result, the teachers often overemphasized the readiness skills in an attempt to ensure the children’s mastery on all sections of the test.

In low and middle income countries with limited technology resources, focusing on basic foundational skills rather than enhancing teaching with digital tools may lead to a poorer learning environment for students and limited use of expensive resources (Selinger, 2009). Given the large teacher pupil ratio in the classroom, the multimedia projector seemed to be the most loved technology because of the visual capabilities during story time and for picture discussion. In this context, student engagement did not refer to the child as agent. The teacher had control over the technology to provide a visual or auditory enhancement to the lesson. This was important for the teachers to be able to ensure that all 35 or 40 children were able to see what was projected, instead of fussing over a picture they had to wait their turn to view.

It was common for Jamaican teachers to create their instructional materials from recyclables. They spent hours making charts from boxes and discarded card board. The teachers believed technology increased their productivity by reducing the time spent on creating charts for the purpose of instruction. As one teacher explained, “Technology makes life easy and takes the hustle and bustle out of teaching.” Instead of drawing and coloring pictures for phonics charts, the teachers said they were able to find suitable pictures online and project them for lessons. They also projected pictures to enhance discussions and oral vocabulary development.

One lesson that I can think of was entitled ‘Jamaica land of Beauty’ and for that lesson I used a multi-media projector to project Jamaica as an island. Even though descriptions were given to the children before this lesson, the expression on their faces when it was projected on the screen they were in awe and they said to me, “Teacher is that really Jamaica?” and I was like, “Yes, this is what Jamaica looks like.” Because of the screen and how it is projected and the image as it is shown they were fascinated and they went into their own conversation and one said “I really want to go deer suh man”
(I would like to visit that place). They were really fascinated seeing a big pictorial view. It wasn’t small in the book; it wasn’t a little clip art picture that was pasted in their book. It was a big projected screen that showed the beauty of the island.

The descriptions of technology to replace charts positioned the teacher as agent, and the children as passive recipients. The teachers equated student engagement with students’ attentiveness and interest in the lesson. The teachers explained that this was due to the limited resources they had available for children to construct their own learning with the technological tools. The lessons often involved watching a video from the DVD player, listening to a story on a CD player, or viewing the visuals from the computer and multimedia projector. The teachers attempted to rotate children for access to the computers in the classrooms, maximizing use through whole and small group instruction. Therefore, the projection of images from the laptop and multimedia projector replicated the traditional lecture method of teaching. The teachers needed support to optimize technology to enhance their teaching and achieve their aspirational goals of active child engagement in learning.

Culturally Specific Considerations for Technology Use

The teachers’ perceptions of technology are grounded in the social context of their school and the wider Jamaican culture. Technology integration in the early childhood classroom is not a common practice among Jamaican teachers. The children at BIS were not accustomed to individual learning tools, and tablet computers for each child would require careful management by the teacher. Jamaican government’s TIS project, which aimed to provide individual tablet computers for children and teachers, seemed to align with a Western cultural stance, where individual learning is valued over collective efforts. With the exception of one teacher who owned a Kindle Fire, the teachers had no previous experience with tablet computers. In describing the initiatives from the Ministry of Education, one teacher lamented:

You cannot at all times implement new policies every year or every three years and expect us to accomplish that when we are working with limited resources and time. Put some measures in place where you know that some of the things they want to implement is unrealistic in the sense of the culture of the children we are working with. While I understand that they want to meet first world guidelines, millennium goals and so forth, where Jamaica is concerned our culture is different. At the early childhood level, at this institution I can speak to that without hesitation that we are committed and we will put in all that needs to be done where our students are concerned and that’s the part that I don’t really like, the demands that are placed upon us. We are physically starved and intellectually drained.

The compatibility of the tablet computers with the current ideas about teaching remained an area of crucial concern. While the teacher as facilitator and guide is the ideal being voiced in educational discourse and national education plans, the reality is that knowledge transmission is the most dominant teaching style of the region (Jennings, 2001). The teachers’ tacit understandings of how things should work will certainly be
challenged with attempts at technology integration. Rogers (1995) asserted that any idea that is incompatible with the values and norms of the social system will not be rapidly adopted by members of that group.

In a cross-national study of early childhood education throughout the English-speaking Caribbean, low-income parents viewed good children as academically competent, cooperative, respectful, compliant, and obedient (Roopnanarine & Metingodan, 2006). The parents preferred more structured, academically-laced instructional approaches and viewed play as frivolous to development. In spite of this, the language of play-based practices has seeped into the early childhood curricula. Jamaican administrators and teachers embrace virtues of child-centeredness and extol the benefits of play and creative activities in engaging children’s minds. However, in practice children are given few choices within structured educational settings. It would seem that curriculum designers are attempting to keep up with globalization by adopting Western influences, resulting in an articulated curriculum that is extolled by teachers but is in stark contrast to the actual approaches that teachers adopt in early childhood classrooms.

Although teachers retain the locus of control in using technology, they perceive that the digital tools have facilitated access to culturally relevant learning experiences. One teacher found videos of adult groups performing brukins, the creolized traditional dance that celebrated Jamaica’s emancipation from British colonial rule. As the children watched she believed that they became connected to the heritage of Jamaica, and had access to resources that exemplified the nation’s motto: “Out of many, one people.”

She explained further how she used technology during circle time to have discussions with the children about Jamaican reggae icon, Bob Marley.

_I downloaded a stage show where Bob Marley was performing. Yes, and there was also an interview in the same video. The children were able to see Bob Marley, knowing that Bob Marley is no longer alive. They were not just seeing a picture of Bob Marley, but they were seeing him perform on stage. They were able to talk about how he moved, when he is singing, how Bob Marley played the guitar. After that they were able to dramatize and role-play Bob Marley singing “One Love.” The students sang “One Love” and shook their heads. They were able to see pictures of Bob Marley’s children, his wife; it was just so beautiful. It was really a powerful moment because the children learned a lot about a man who has contributed so much to Jamaica._

Capacity Building

Educator capacity building is a critical component to sustain the effective use of technology with children. The four participants were graduates of the same teacher education program. They shared similar knowledge and experiences from college courses, but noted the focus was on gaining familiarity with the technology tools and not acquiring technological pedagogical knowledge to facilitate children’s appropriation of technology for their learning.

In addition to their college coursework, the teachers also mentioned that some of their technology skills were self-taught. One participant believed that the onus was on each teacher to achieve personal technology competence. She mentioned that the MOE could provide workshops, but teachers should use their own initiative to seek out techn-
logy training. In her own quest to ensure that children were gaining useful knowledge and experiences in school to master the skills they need to function in life, she emphasized the importance of reading and doing research to keep up to date with technology in early childhood education.

I do a lot of research; I do a lot of reading. I read plenty of journals. I also connect with the NAEYC [National Association for the Education of Young Children] website and keep abreast with what’s happening concerning technology because I believe that as a teacher, I am in Jamaica, and I don’t know everything happening out there. So I have to stay connected with the world of technology.

The value teachers place on technology for young children’s learning influences their pedagogic choices for integrating technology in the classroom (Barron et al., 2011; NAEYC, 2012). The educators at BIS displayed positive dispositions toward the role of technology to support children’s learning and enhance the growth of the next generation of nation builders, a key outcome of the early childhood for sustainable development initiative. However, all four participants agreed that they needed further training and continuous support to enhance their pedagogical practices with technology and integrate the new tablets.

In spite of their lack of experience with tablet computers, the Jamaican government’s TIS project motivated the teachers. There was a sense of collective excitement with apprehension as they shared concerns about the resources they had and the tablet computers they were anticipating. The teachers’ misgivings were not in resistance to the tablets, but rather they were anxious about their own need for technology training. They identified common issues for implementation, including limited technology resources to accommodate their large class sizes, the challenges of supporting and supervising students given the high teacher-pupil ratios, and unreliable Internet access.

The teachers described some of the challenges they envisioned once the TIS project was launched. Enthusiasm for the tablet computers was mediated by anxiety about how the children would care for the tablets. Technology has the potential to enhance the quantity and quality of educational delivery, but there are also adverse consequences that need consideration (Selinger, 2009). The TIS project would allow children to take home their tablet computers, and the devices would be equipped with location monitoring for tracking. Nonetheless, some of the children throughout Jamaica live in volatile communities with limited social capital. In an attempt to protect the children from being robbed on their way to or from school, the teachers suggested that the local government needs a plan to ensure the safety and wellbeing of the children while building the social capital of the communities in which they live. The plan should address learning with technology as a community initiative before putting an expensive device in the hands of children, which might attract thieves. It would be naïve to not think about the safety of children and teachers with expensive tools in the Jamaican context.

One of the teachers wished they were getting more desktop computers instead of the tablets. She believed the desktop computers would encourage more teamwork than the tablets. She commented:

I would prefer a desktop computer, because it’s easier to supervise and better for the children to manage. Better manipulation too, and better team work. On the desktop computer, they learn sharing skills; they learn to take turns.
The participants identified planning, supervision, and collaboration as important factors in their effective use of technology, especially as it related to the tablet computers. While the teachers identified their personal technology use and training, they also mentioned the implications for the wider school community. The teachers expressed that their colleagues would need to ‘get on board’ with technology in order for BIS to use the technological resources to capitalize on the affordances for children’s learning. The teachers viewed technology integration as a community activity in which all members participated.

Considerations must be made regarding the social context for learning and technology integration. The teachers’ anxieties concerning the tablet computers were understandable. The teachers’ transition from one computer for forty children to considering one tablet per child created tension. The anxieties reflected a management issue as the teachers contemplated how they would maximize learning with individual tablet computers for forty children. It was also important to consider the cultural view of schooling for Jamaican educators and parents. While the educational discourse acknowledged the teacher as guide and facilitator, the extent to which this ideal is reflected in classroom practices warrants the need for further research.

Way Forward

This study highlights the centrality of the cultural context of the teachers in shaping their epistemology regarding technology and young children’s learning. ICT4D scholars have argued that knowledge about technology cannot be treated as context-free, and that good teaching requires an understanding of how technology relates to the culturally-mediated pedagogy and content (Avgerou, 2010; Koehler & Mishra, 2009; Selinger, 2009; UNESCO, 2013; Unwin, 2009; Iliško & Ignatjeva, 2014). Thus, providing schools with tablet computers will not automatically transform teachers’ practices from knowledge transmission to child centered pedagogy without concomitant attention to capacity building.

To achieve early childhood for sustainable development in Jamaica we need to position teachers with a pedagogical advantage to promote children’s learning with technology in their schools, homes, and communities. This initiative requires teachers who are committed and empowered. Moreover, technology practices in the Jamaican classroom are contingent on capacity building and collaboration between researchers and teachers (Davies et al., 2009). By developing a community of practice, the early childhood learning environment may create a sustainable infrastructure to support learning with technology.

Early childhood for sustainable development involves learning as a lifelong process for both teachers and children. Training of teachers should therefore be ongoing to meet the needs of the children and prepare them with skills for their lives outside the classroom walls. Early childhood is a global phenomenon with cultural implications for curriculum, teaching, and children’s learning and development (Rogoff, 2003). Given this situated context, it is necessary to identify and use culturally relevant and local resources to enhance teaching and learning in order to prepare the 21st century teacher with critical and problem solving skills for inquiry and innovative practices in Jamaican classrooms. Tobin, Hsueh and Karasawa’s (2009) cross-cultural studies of preschools highlighted the challenges of the relationship between continuity and change and the
influence of importing ideas from abroad. “Preschools are institutions that both reflect and help to perpetuate the cultures and societies of which they are a part” (Tobin et al., 2009, p. 225). Tobin et al. (2009) contended that culture can act as a source of continuity and as a brake on the impacts of globalization. Educators across nations view early childhood practices differently; there is no universal truth regarding best practices for quality early childhood programs. As such Tobin (2005) encourages the preservation of the cultural practices of schools and guards against throwing out the old for the new in a “one size fits all” approach to early childhood education.

Likewise, the ICT4D research highlights the connections between technological interests and social change (Unwin, 2009). The main focus of ICT4D is on what should be done with technology and how it should be done in the unique context of developing countries (Selinger, 2009; Unwin, 2009). “ICT4D therefore has a profoundly moral agenda” (Unwin, 2009, p. 33), with emphasis placed on the needs of the people who stand to benefit from the technology innovation. Ultimately, the focus is not about the technologies themselves, but how the technology can contribute to the empowerment of communities.

References


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Technology Integration Experiences of Teachers

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Abstract
Teachers are important providers of educational sustainability. Teachers’ ability to adapt themselves to rapidly developing technologies applicable to learning environments is connected with technology integration. The purpose of this study is to investigate teachers’ technology integration experiences in the course of learning and teaching processes. In doing so, qualitative research methods have been applied. The participants of the study were four teachers of different subject fields who work at a public secondary school in 2015–2016 school years and regard themselves as competent in technology integration. The study results indicated that the teachers took a teacher-centered stand in technology integration and the teachers’ most prominent reasons to start technology integration were the search for quality in education. Also the teachers, as IT school teachers, reported receiving support from close friends, the Ministry of National Education (MoNE), and online resources. The problems that the teachers faced in the processes of technology integration were mostly related to issues connected with the access to technology and technology proficiency.

Keywords: technology integration, sustainability, technology.

Introduction
Technology integration is one of the dimensions of sustainable development (Pouezevara, Mekhail and Darcy, 2014; Armenta, Serrano, Cabrera, & Conte, 2012), proposed as a means to provide sustainable development (Yarime at all., 2012). It is suggested that technology integration initiatives should also be seen through a sustainability lens (Polly, Mims, Shepherd, & Inan, 2010; Iliško & Ignatjeva, 2014). Technological innovation is an important provider of sustainable development within the fields of education. In educational institutions, technological innovation and integration are valuable tools for educational initiative and sustainable future (Uwasu, Yabar, Hara, Shimoda, & Saijo, 2009). Moreover, establishing infrastructure and technology integration to education is a prerequisite of technological innovation. Thus, the effects of information and communication technologies on student learning, quality of education, and sustainable development provide a basis for the integration of technology within the sphere of education.
Teachers are important providers of educational sustainability. Teachers’ ability to adapt themselves to rapidly developing technologies applicable to learning environments is connected with technology integration (Bentham, 2013; Ortega & Fuentes, 2015). Technology integration in education has a multidimensional structure that consists of various components and indicators. In this vein, the factors influencing technology integration include human resources as well as technological resources. Technology integration is defined as an efficient and effective use of technology embracing all aspects of learning and teaching processes including learning and teaching environments, curriculum, and infrastructure (Yalın, Karadeniz & Şahin, 2007).

During technology integration processes, a variety of issues may cause problems including teachers’ limited access to the Internet (Clark, 2006; Bauer & Kenton, 2005), time constraints (Yalın, Karadeniz, & Şahin, 2007; Zhao & Frank, 2003; Mumtaz, 2000), teachers’ lack of basic technological skills (Hew & Brush, 2007), teacher attitudes towards technology integration (Hew & Brush, 2007; Lim & Khine, 2006; Ertmer, 2005; Iliško & Ignatjeva, 2014), school culture (Hu, Clark, & Ma, 2007), and teachers’ need for professional development regarding technology integration (Göktaş, Yıldırım, & Yıldırım, 2009; Gülbaşar & Güven, 2008; Koehler & Mishra, 2005; Glazer, Hannifin, & Song, 2005). On the other hand, the problems stem from teachers’ lack of knowledge, skills, or efficacies, being the most prominent obstacles to an effective technology integration (Brinkerhoff, 2006; Hew & Brush, 2007; Lim, 2007; Lim & Khine, 2006; Oncu, Delialioglu, & Brown, 2008; Shulman, 2004; Yalın, Karadeniz, & Şahin, 2007; Zhao, 2007). Moreover, there exist studies reporting issues related not only to teachers’ technology use but also to their lack of skills or efficacies (Çiftçi, Taşkaya ve Alemdar, 2013; Korkmaz ve Usta, 2010). Thus, this situation indicates that teacher efficacies play a central role among the factors influencing effectiveness of technology integration in education.

In order to alleviate common problems (such as lack of basic skills, negative attitudes, and need for professional development) and enable teachers to use technology effectively in their own teaching, pre-service education should equip teacher candidates with knowledge and skills enabling them the use of technology. Therefore, it is important that teacher training institutions include technological tools appropriate to the subject matter and provide pre-service teachers with quality education (Erdemir, Bakirci, & Eyduran, 2009). However, the literature suggests that students in teacher training institutions often do not have a chance to transfers their technology knowledge to out-of-school activities when technology instruction is given as a separate course. For this reason, it is emphasized that pre-service teachers should earn technological skills in connection to the subject matter (Van Melle, Cimellaro, & Shulha, 2003). In addition, researchers state that the learning environments in which the use of technology becomes integrated with the subject matter improve students’ achievement and foster their higher order thinking skills (Lim & Ching, 2004).

The purpose of this study was to describe both initial and current technology integration states experienced by the teachers who consider themselves successful in integration due to their use of technology, means of support, problems they encounter and solutions they devise, and their suggestions for the future teachers.
Method

This study employed a qualitative research design and featured interview study elements. The participants of the study were four teachers who work at a secondary school in Meram District of Konya Province in Turkey during 2015–2016 school year. Several methods were used to meet inclusion criteria. First, the researchers consulted the school’s information technology teacher about those teachers who make an effective and high-level use of technology. The IT teacher gave a total of four teachers name from four different subject fields. Then, the researchers got in touch with those teachers to inform them about the study and to ask their opinions about the perceived by them level of technology integration. Finally, the teachers who consider themselves good and efficient filled in the educational technology standards scale by Çoklar (2008) to confirm their self-perception, and were included in the study. The participants’ characteristics are given in Table 1.

Table 1
Participant Characteristics

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Gender</th>
<th>Subject Matters</th>
<th>The total score (max 205, min 41)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mine</td>
<td>Female</td>
<td>Turkish</td>
<td>186 (High-Level)</td>
</tr>
<tr>
<td>Fatih</td>
<td>Male</td>
<td>Science</td>
<td>193 (High-Level)</td>
</tr>
<tr>
<td>Deniz</td>
<td>Female</td>
<td>Culture of Religion and Morality</td>
<td>173 (High-Level)</td>
</tr>
<tr>
<td>Akif</td>
<td>Male</td>
<td>English</td>
<td>194 (High-Level)</td>
</tr>
</tbody>
</table>

The teacher participants were from four different subject fields, namely Turkish, Science, Culture of Religion and Morality (CoRM) and English. As to genders, two of the participants were females and the other two were males. All participants were classified as high-level technology users based on their Educational Technology Standards Scale (ETSS) scores.

In order to determine the teachers’ level of technology integration, the researchers developed a semi-structured interview form. Interview is one of the qualitative data collection methods through which researchers try to understand the participants’ perspectives on specific matters through their answers to pre-decided question (Yıldırım & Şimşek, 2011). In line with the purpose of the study, the researchers developed questions covering the technologies used by the teachers in learning processes. The researchers informed each of the participants about the purposes of the study and research process, and obtained their written and oral consent prior to the interviews. The data were analyzed employing inductive analysis techniques. In doing so, first, the researchers transcribed and organized interview records. After validating the accuracy of transcriptions, the researcher made a holistic review of the data to form a general understanding. Then, the data were divided into pieces, and each piece was named and coded. Also, an educational technology expert and a qualitative research expert examined the established codes and themes to evaluate accuracy of coding. In light of expert opinions and suggestions, the researchers gave codes and themes to their final form. Established themes were supported with direct quotes to form findings (Gay, Mills, & Airasian, 2006; Cresweell, 2005).
Research Findings

Characteristics of the School and Participant Teachers

The teachers were coded from Mine to Akif and their general characteristics were as follows.

**Mine (Teacher 1)** was a teacher of Turkish graduated from the Turkish Teaching Department of the Faculty of Education. She also held a master of education degree in the same major. She was 29 and had eight years of teaching experience. She reported using computer, projector, and PowerPoint presentation technologies.

**Fatih (Teacher 2)** was a science teacher with eight years of teaching experience. He stated that he considered the use of technology as a must in his area. He also mentioned his interest in technology, especially in computers. He stated that he had a good level of knowledge in both the use of the Internet and office packet programs. He also mentioned that he often prepared presentations for his lessons, and he used PowerPoint presentations and animations he found online.

**Deniz (Teacher 3)** was a 38-year-old female Culture of Religion and Morality (CoRM) teacher. She had 10 years of teaching experience, and reported using computer and the Internet for teaching purposes.

**Akif (Teacher 4)** had had 20 years of experience in teaching English since 1995 and was a 43-year-old male. He mentioned using presentations and online videos frequently, and considered himself a technology user with a good level of skills.

Teachers’ Initial Processes to Use Educational Technologies

In this session, the participants’ initial processes to start using technology were presented bearing in mind their reasons to start using them, support the participants received, difficulties they faced and the ways they overcame those difficulties.

The Reasons that Intrigued the Teachers to Use Technology

Improving the quality of instruction appears to be a common reason for the participants to use technology. Mine (Turkish) stated that, in her early career, she realized students forgot the content in a short period of time and she decided to use visuals in conjunction with verbal content based on a literature review pointing that retention improves as the number of senses involved is increased. To do so, she chose to use PowerPoint and Prezi to employ visual and auditory content simultaneously. According to her, the increased student interest and positive results influenced her decision to keep using technology. Similarly, Akif (English) expressed that using technology became a necessity once he realized students were attracted to visual content and students’ visual memories were more advanced. He stated that he decided to use technology to make lessons more active and improve retention. Deniz (CoRM) mentioned that the richness of the content available online intrigued her to start using technology. She stated that while her early experiences were more about directly using online materials, she grew to be able to produce different materials on her own. She mentioned that she became aware of the importance of activating student participation and the role of the materials she created (like puzzles). Fatih (Science) stated that visual content and providing concrete examples were inherent, and therefore important, in his teaching. He mentioned that he started actively using technology to provide concreteness by finding various materials online.
Support the Teachers Received During the Initials States of Integration

Support is an important part of the technology integration process (Buabeng-Andoh, 2012; Ertmer, 2005). In this context, the researchers investigated what institutions, people, and resources provided support for the teachers. Fatih (Science) expressed receiving support from the information technology teacher, who is also a close friend of his. In this scope, he pointed one person as an important means to receive support. Both Mine (Turkish) and Akif (English) mentioned the facilities MoNE provided as an institution; however, each teacher emphasized different means of support. Mine (Turkish) stated that she received support from Education Information Network (EIN) founded by MoNE. EIN is especially useful as an online material repository. On the other hand, Akif (English) stressed the in-service professional development courses that the Ministry provides for the teachers such as computer and instructional material design courses. Thus, it can be said that institutional support takes multiple forms. Deniz (CoRM) expressed that she found institutional support insufficient, and that an individual’s efforts were more important. She mentioned making use of websites to receive support.

The Hardships the Teachers Faced at the Initial States of Technology Integration

The problems the teachers experience in early stages of technology integration were investigated as well. Mine (Turkish) expressed that the most important problem she faced was access to the Internet, more specifically inability to access educational websites. Fatih stated that he did not have any problem finding teaching materials, yet the limited number of physical tools such as projectors was a serious constraint for him. Likewise, Deniz (CoRM) express a fewer number of projectors as a serious problem. In addition to the insufficient number of physical tools, Akif (English) pointed out to the inconvenience of the physical environment, and teachers’ inability to purchase such technologies due to high costs. He also mentioned the adverse effects of portable equipment such as time required to set up projector and computer each time, and prepare classroom environment for technology use.

As ways to handle the problems, the teachers mentioned using mobile internet connection, bringing personal portable computers to the classroom, purchasing a personal projector, and requesting a classroom to be arranged specifically for the course. Especially the last solution is noticeably a administrator oriented solution.

Technology Integration in Educational Processes

The teachers provided information on how they use technology in the entire range of the educational process, from preparation to evaluation. Based on their statements, the Internet appears to be a common reference source.

Mine stated that she first searched for online presentations and checked whether they were appropriate for the students’ level, and prepared new ones when suitable presentations were not available. She mentioned using materials to pique students’ attention at the beginning of the classroom sessions:

... As I begin teaching a lesson, I have them watch an animation, video or a cartoon related to the topic to gather students’ attention. By doing so, I pique the children’s attention.) She also included an introductory slide in his presentations as an advanced organizer (In the introduction phase of a lesson, I use PowerPoint presentations specifically to provide list of topic that will be covered.
Ahmet Naci Çoklar and Işıl Kabakçı Yurdakul

The participant stated that she used hyperlinks as much as possible to enrich presentations with visuals and auditory content, and that for evaluation purposes, he made use of unit tests on EIN and got students answer them on the smart board.

Fatih (Science) argued that his course was quite suitable for technology integration and acknowledged the importance of preparation prior to the class meetings. He described his practices of using video sharing sites and a personal educational animation archive in the preparation phase. He also stressed the importance of time management:

Since our lessons are limited to 40-minute intervals, we time and spread the content among classes., and role of technology to enhance instruction (Besides, we have to present the fundamental content verbally. Once we lay the basis for the class, we use technology as a means to support learning.

As to assessment and evaluation, the participant stated that he used paper-based tests and presentation at different times. For the questions which require embedded visuals, he preferred presentations and the Internet.

Deniz (CoRM) stated that she used video technology to arouse emotions so that students could feel the importance of the topic:

Let me give an example. For instance, our topic is bad habits. First, I will use a video about the status of a person under influence of alcohol or drugs to bring students attention to the topic.

In this context, she emphasizes preparation for the class. She mentioned producing presentations for instruction and evaluation; however, she reported employing personal video archives and the Internet (youtube.com) quite often because she found videos important.

Akif stated that he used the Internet to find documents and generate ideas, yet he remained cautious about the online content:

We make use of the internet during class preparation. I utilize online environment in preparing documents or searching details about the topic. In doing so, we must be careful. As you know, the internet is full of mindless, uncontrolled information. It takes a great deal of time to select correct and proper information, but it aids us in class preparation. To enrich our opinions and horizons...).

The participant told that in order to gather students’ attentions to the topic, he used materials such as pictures, videos and presentations through technology. (At the introduction phase of the lesson, a good picture, video, presentation or audio draws students interest perfectly and provides a strong start.) He added that at the presentation phase, technology helps teachers in teaching the topic, providing details, providing concrete examples, and that videos allow one to review the content as long as it is desired:

During presentation phase, we utilize it [technology] to ease the knowledge transfer, provide details and elaboration, and give examples. Let’s consider the shopping process. We can present how shopping works, the tenses and terms used in shopping visually through videos step-by-step. We also have a change to stop and replay.
Similarly to the other participants, Akif stated he used technology to present questions and other evaluation materials, and create scenarios based on materials to evaluate students.

The teachers’ statements regarding their use of technology indicate that although they use technology for students, their approach to technology integration is teacher-centered rather than student-centered. While their practices seem to adopt a student-centered use of technology for the purposes of strengthening attention, improving retention, and activating more senses; none of the participants mentioned using technology to elicit student-student interaction and foster collaboration.

Current Technology Integration Problems of the Teachers

As the participants consider themselves competent in technology integration now, the researchers asked them about the problems they encounter in the current practices. In this context, Mine (Turkish) mentioned being unable to use technology as much as it was desired due to the pressure to complete mandatory curriculum content.

...Since Turkish is a five-hour course, I can use technology effectively in the three of these five hours at most. I would love to make an effective use of technology in all five hours, yet the curriculum I have to cover prevents me.

Fatih (Science) told that sometimes the level of students’ knowledge had a substantial influence upon technology integration.

Let me put it this way, I don’t know if this is something our education system brings about, yet when students’ levels are not suitable you cannot easily manage the situation. I mean, my purpose of using presentation is to first cover the entire presentation, and then utilize visuals to summarize, to repeat... When we cannot complete the former, there is no time for the latter.

Deniz (CoRM) pointed out physical facilities as an obstacle to technology integration: Of course, I did my best with available facilities. But, sadly, there are things I could not accomplish: ...Due to some physical constraints, we have some issues about this matter. Akif (English) referred to the time required to prepare materials as a significant issue for technology integration:

...for example, a presentation prepared by another teacher may not work for me. Therefore, I have to prepare my own presentation in line with my teaching style to make my lesson more active, more teachable. And this takes time...

Discussion

Mortensen (2001) maintained that sustainability is of importance for teacher education. He claimed that teachers should be trained to keep up with the rapid developments in technology. In this context, technology integration becomes a key concept for sustainability of educational processes. Teachers are fundamentally important in the technology integration processes because without their active involvement, integration does not happen. In line with that, Gooler, Kautzer, & Knuth (2000) argued that the most important role in the effective use of technology in education belongs to teachers. In this context,
four teachers who claimed to use computers effectively and practice a good level of technology use participated in the study. The following section provides the findings.

All of the teachers who claimed to use technology conceptualize technology as digital tools, materials, and media. The technologies and materials they use include computer, smart board, projector, PowerPoint presentations, animations, videos, and the Internet. These technological resources are in line with the ones emphasized by MoNE of Turkey through the FATIH Project. MoNE (2012) explained the aims of the FATIH Project as providing equal opportunity in education through information and communication technologies, improving technological infrastructure of the schools, and enhancing the quality of learning outcomes by providing access to technology and materials. For this reason, it is understandable that the teachers mentioned digital technologies and materials when they were talking about technology integration processes. This situation may also be related to the perceived usefulness of such tools and materials. In his Technology Acceptance Model, Davis (1989) defined perceived usefulness as the level of one’s belief that the use of a system will improve his/her performance at work.

The participants’ main reason to use technology was to improve the quality of education. Their reasons to start using technology for educational purposes included enhancing retention, improving the effect through visuals, activating more senses, eliciting active student participation, employing rich online resources, and providing concrete examples. These opinions of the teachers of varying experience may be formed due to their perceived usefulness (Davis, 1989) and their ability to think about technology integration (Tsai & Chai, 2012). Tsai and Chai (2012) suggest that teachers’ ability to think about technology integration should be supported. The teachers, based on their experience, pointed to the probable usefulness of technology as their starting points. Likewise, the teachers’ opinions and the opinions from other research studies show similarities. Dursun (2006) argued that knowledge retention is important and teachers have to create learning environments that utilize visual and auditory learning resources and address multiple senses.

The participants’ sources of support during the initial phases of technology integration included close friend(s), information technology teacher, MoNE (content and materials on EIN, in-service education courses etc.), and information on the Internet. According to Ertmer (2005) and Ortega and Fuentes (2015), support given to teachers is a critical means to handle obstacles of technology integration. Moreover, Andoh (2012) emphasized the importance of leadership support and technical support in the success of ICT integration. The participants of the study preferred friends and the Internet as their sources of support due to its accessibility and practicality.

Among the problems encountered during the initial phases of integration, the participants named the access to the Internet and educational websites, limited number of projectors, unsuitable physical environment, high cost of technological equipment, and waisting classroom time in carrying and setting up the equipment. In other words, access to technology and using it were the problems faced at the beginning. In addition to the physical problems in the initial phase, the current problems of the teachers are centered on educational processes such as failure to teach the topic within the classroom time, failure to cover the entire curriculum, and insufficient level of students. Therefore, it can be concluded that the teachers’ initial problems on technology integration developed form accessing and using technology to pedagogy focused issues. Hixon & Buckenmeyer (2009) regarded technical problems as external factors influencing technology integration,
and claimed that as technological tools evolve new problems are likely to emerge. Çakır & Yıldırım (2009) found similar results in their study with pre-service teachers.

The teachers’ processes of integrating technology into lessons were examined in four phases: prior to class, introduction, during instruction, and evaluation. Prior to class preparations included finding presentations to suit the topic and editing them or creating new presentations if there is none available, and finding documents, videos and animations online. Similarly, Wastiau et al. (2013) argued that the Internet has become one of the most important resources in classroom preparation and finding educational materials. Education Information Network (EIN) component of the FATIH Project being run by MoNE also aims to provide materials for teachers and activate the potential of the Internet also in the course of learning events (MoNE, 2012). As to finding learning materials, the Internet is an important resource for teachers (Fu, 2013).

During the introduction to the class phase, the participants employed technology to draw students’ attention through materials, explain the instructional goals through slides, and activate emotions through videos. During the instruction phase, the participants preferred to use technology to effectively utilize presentations and other materials, simultaneously use visual and auditory content, support and enrich instruction with animations and videos, ease instruction through presentations, provide concreteness, and repeat the content as needed. As to the evaluation phase, the teachers stated that they utilize unit tests on EIN and other educational websites, use projectors to elicit active participation, and include videos and visuals in various forms of assessment. All sorts of the educational use of technology mentioned here show the purposes of using educational technologies (Aldunate & Nussbaum 2013; Bentham & Sharpe, 2013; Cheung & Slavin 2013; Fu, 2013; Kabadayi, 2016; Makrakis, Kostoulas-Makrakis, 2012). Furthermore, Bentham (2013) maintained that the use of technology makes information and concepts more tangible so that it helps teaching and comprehension. Wastiau et al. (2013) mentioned reusability and repeatability of the content, providing concrete examples, and providing equal opportunity for students as far as the advantages of using computers in education are concerned. Therefore, the results of the current study comply with the ways of using technology stated in the literature.

Taken together, the results of the study indicate that the teachers participating in the study employ a teacher-centered approach to technology integration rather than a student-centered approach. Pipere, Veisson, & Salite (2015) and Bentham (2013), Hixon & Buckenmeyer (2009) suggest that technology integration work for students; for this reason, teachers should surpass traditional education through the use of technology and plan the processes considering mainly students.

The teacher shed light on the use of technology in technology integration based on their experiences. In their statements, online resources and MoNE facilities like EIN became prevalent. Therefore, in-service training programs to introduce the facilities to other teachers and to increase their awareness would be beneficial. As the subject matter has an influence on the technology integration processes, the best practices of teachers successful in integration may serve as examples to other teachers. New studies examining this situation would also be beneficial. Technology integration, ideally, focuses on students; however, the results of this study showed that the teachers follow a teacher-centered approach to integration. In this respect, the teachers can also be informed about how to properly integrate technology, following a student-centered approach.
References


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Abstract
Recent studies indicate that limited understanding about causes and its potential impacts of climate change and fault beliefs by people across different countries of the world including Turkey is a real challenge. Acceptance of climate change as a real threat, believing its existence, and knowing causes and consequences are very significant for climate change adaptation and mitigation. Therefore, exploring underlying factors shaping or affecting beliefs of people is needed for designing educational interventions for a change in individuals’ attitudes and behaviours. The main purpose of the present study was to explore how and to what extent future time perspective, perceived knowledge about global climate change, and environmental attitudes explain the university students’ beliefs about occurrence, causes and consequences of GCC. A quantitative research was conducted with the participation of one thousand, five hundred and eighty undergraduate students (n=1580) of METU and the data was gathered through Future Perspective Related Beliefs about Global Climate Change Scale. The study findings suggested that ecocentric attitude and perceived knowledge are mainly two influential factors for the undergraduate students’ beliefs about global climate change. Future time perspective’s contribution although low, was found to be significant in beliefs about GCC. The results of this study would shed light to evaluate and improve educational programs and curriculum in higher education, and can be a guide because Turkish literature does not serve any research that seek students’ future time perspective related to global climate change.

Keywords: future perspective, higher education, climate change education, climate change beliefs, sustainable development.
Introduction

The Problem

Climate change is a global threat of the twenty-first century with long-term impacts for the sustainable development of countries in the world. In the presence of global climate change, international and national institutions, policy makers, higher education researchers and academics have increasingly redirected their attention to social and economic sustainability in the world (Gray, 2010). Since the sustainable development provides a future sighted and long term perspective on development concerning the issues like energy resources, disaster management, population growth and consumption, global climate change threats brought the issue back to the sustainable development instead of the short term development efforts (IPCC, 2001).

For adaptation and mitigation efforts to be effective, establishment of national and international policies, development and transfer green technologies and financial incentives are needed, but they are not sufficient for responding the challenges of sustainable development and global climate change (Nolet, 2009; Buckler, & Creech, 2014; Besong, & Holland, 2015; Salóte, 2015). Since human actions are linked to causes of greenhouse gas emissions, deep and lasting behavioral changes are also necessary for adaptation to and mitigation of global climate change (Nolet, 2009). Education is considered as a key instrument for bringing about this behavioral change (Buckler, & Creech, 2014); and also found its place in climate change adaptation and mitigation agenda as an effective strategy (Makrakis, Gkotzos, & Larios, 2013; Chew-Hung, 2014).

For last four decades, increasing environmental concern around the world has raised the importance of education. Education has been seen as the primary agent in transformation towards sustainable development (Pipere, Veisson, & Salóte, 2015). The main idea behind this thought is that education enables individuals to gain awareness and take informed decisions in the face of global climate change. Therefore, education plays an important part in achieving sustainable development (Nolet, 2009) and the term Education for Sustainable Development (ESD) is referred to an overarching framework for various aspects of education related to environmental, economic and social aspects of sustainable development (Sterling, 2004). Environmental protection implies future concern, in which natural resources are preserved and secured for future generations. Even the most cited definition of sustainable development takes account of future concern, stating that “sustainable development should meet the needs of the present without compromising the needs of future generations.” In this respect, sustainability concept is about both short term and long term time perspective; and requires individuals to pay attention to the short term and the long-term gains and effects of their choices, and to take responsibility for the effects of their decisions and actions on future generations (Gibson, 2006). Therefore, future perspective is also considered as an important element in ESD (Frisk, & Larson 2011; Wiek, Withycombe, & Redman, 2011; Pipere, Veisson, & Salóte, 2015; Bakutytė, Ušeckienė, & Iliško, 2016).

The Climate Change Education for Sustainable Development (CCESD), on the other hand, emerged as an integral part of ESD. During the UNESCO World Conference on ESD held in Bonn in 2009, climate change was accepted as a key action theme of the UNDESD with an emphasis on education as an essential element of the global response to climate change (UNESCO, 2014). CCESD is considered as an important tool for enabling students to be aware of global climate change threat, know about root causes,
negative consequences, and gain relevant skills and dispositions to act for mitigation and adaptation of global climate change (Kagawa, & Selby, 2010; Makrakis, Gkotzos, & Larios, 2013). Future time perspective is particularly of importance for global climate change. As its consequences will be felt at least next thousands years (IPCC, 2007), for mitigation and adaptation of negative consequences of climate change, individuals should take into account long-term consequences of their behaviors (Milfont, & Demarque, 2015).

Recent studies indicate that limited understanding about causes and its potential impacts of climate change and fault beliefs by people across different countries of the world including Turkey is a real challenge. Acceptance of climate change as a real threat, believing its existence, and knowing causes and consequences are very significant for climate change adaptation and mitigation. In addition, the past few years have seen an increase in studies examining the extent to which future concerns are associated with environmental engagement. These studies have suggested some evidence that future time perspective influences proenvironmental attitudes and behaviors of individuals (Corral-Verdugo, Fraijo-Sing, & Pinheiro, 2006; Milfont, & Gouveia, 2006; Strathman, Gleicher, Boninger, & Edwards, 1994). Therefore, exploring underlying factors shaping or affecting beliefs of people is needed for designing educational interventions for a change in individuals’ attitudes and behaviours (Gifford et al., 2011; van der Linden, 2014; Keinonen et al., 2016).

Findings of the studies conducted during the last decade in Turkey indicated that although students are aware of global climate change and concerned about consequences, they hold some misconceptions related to global climate change; they do not have adequate knowledge about causes and consequences, and more importantly, they are not aware of the link between individual behaviours and the causes of climate change (Senel, & Gungor, 2008; Kahraman et al., 2008; Bozdogan, 2009; Kilinc, Boyes & Stanisstreet, 2011; Sever, 2013; Sahin, 2013; Ozdem et al., 2014).

There is still an important minority in the world who believe that global climate change is caused by natural processes, or it is not occurring at all (Leiserowitz, Maibach, Roser-Renouf, Smith, & Hmielowski, 2012; Shao, 2012). According to a survey of 2010, 19% of Americans think that climate change is not happening, and another 19% does not know if it is happening (Leiserowitz et al., 2012). Likewise, 18% of Australians and 15% of British people do not believe that climate change is happening (Reser, Bradley, Glendon, Ellul, & Callaghan, 2012). In addition to these two faulty beliefs about occurrence and causes of global climate change, there is another belief about global climate change: belief that global climate change will bring about negative consequences. This belief has been generally defined as risk perception (Bord et al., 2000; Leiserowitz, 2005). The findings of the most current public opinion poll indicated that 64% of the Americans do not see global warming as a threat; 69% of them believe that there is a solid evidence for existence of climate change (Gallup Poll, 2013). 50% of all Europeans does not think that climate change is one of the world’s most serious problems (Eurobarometer, 2014).
Insights from the Literature Review

The findings of previous studies have suggested mainly two types of factors related to individuals’ beliefs about climate change, or barriers causing limited understanding of climate change: nature of the climate change phenomenon and psychological factors related to time perspective of individuals.

Climate change is in many respects different from other environmental problems and often described as a complex problem (Dietz & Stern, 1998). The impact of climate change varies, while some regions suffer more severe effects of climate change, in the other parts of world its impacts are modest. Besides, some negative effects are projected to occur in the future. The impacts of global climate change are much more gradual than other environmental problems, so this makes it more difficult to realize. Thus, most people consider climate change impacts as both uncertain and as being mostly in the future and geographically distant, all factors that lead people to ignore them (Zimmerman, 2011).

Misperceptions about causes and consequences of climate change are explained within two contexts in the literature, namely social dilemma and construal level theory. Social dilemma is defined generally as the situations in which short-term individual and long-term collective interests conflict (Komorita & Parks, 1994; Messick & McClelland, 1983). Considering pro-environmental behaviour as a social dilemma suggests that when individuals are offered a choice between more and less environmental friendly behaviours, in order to make a decision, they are faced with at least two basic underlying conflicts of interest: a social conflict (between individual and collective interests) and a temporal conflict (between immediate and future consequences of their actions).

In fact, almost any pro-environmental behaviour causes a temporal conflict, as in most cases, long-term interests require the sacrificing of short-term interests (Balliet, & Ferris, 2013). For example, a conflict emerges when a person decides whether to turn on a heater or put on another piece of clothing. Turning on the heater will provide immediate benefit an individual in the short run, but it may cause more energy consumption and major damage in the future and be detrimental to long-term interests (Carmi, 2013). Therefore, considering future consequences of behaviours is important for individuals’ willingness to act cooperatively for mitigating harmful effects of global climate change (Beckenkamp, 2011).

Construal Level Theory (CLT) is a socio-psychological theory that describes how psychological distance influences individuals’ thoughts and behaviour (Liberman & Trope, 2008). According to CLT, individuals perceive an event away from direct experience on four psychological distances: temporal distance (time, i.e., it takes place far into the future); spatial distance (physical space, i.e., it occurs in more remote locations); social distance (interpersonal distances, i.e., it happens to people less like oneself); and hypothetical distance (predicting that an event is less likely or unlikely to occur) (Trope, & Liberman, 2010; Trope, Liberman & Wakslak, 2007).

When individuals’ beliefs about occurrence, causes and consequences of global climate change are considered within CLT framework, due to the nature or characteristics identified above, people construe global climate change as an abstract and psychologically distant phenomenon on all four psychological distances. Basically, as effects of climate change are not felt seriously at the same degree in all countries, climate change becomes removed from individuals’ direct experience, they believe that it has not being actually
happened. As Milfont (2010) stated, as a general, people typically perceive climate change as a distant threat, one that is not relevant to them personally, where they live, and not in the present time but some time in future.

Several studies explored the different aspects of psychological distance and its influence on environmental engagement and environmental risk perception (Wade-Benzoni, 2008; Gifford et al., 2011; Milfont, Abrahamse, & McCarthy, 2011; Spence, Poortinga, & Pidgeon, 2012). These studies found that lower psychological distances was associated with higher levels of concern, and significantly related to behavioural intention (i.e., preparedness to act on climate change).

Since the temporal conflicts are related to the consideration of long-term outcomes of behaviours; and temporal psychological distance plays a central role in exploring time perspective phenomena, an individual’s future time perspective is particularly relevant to an individual’s beliefs and decision to engage in behaviour for mitigation and adaptation of global climate change.

Future Time Perspective (FTP) is individuals’ ability to foresee and anticipate the future, and reflects people’s capacity to plan for and achieve future goals (Zimbardo, & Boyd, 1999; Bakutytė, Ušeckienė, & Ilško, 2016) and to consider the future implications of their actions (Strathman et al., 1994). It is a motivational and an individual-differences construct (Carmi, 2013). Some people can foresee the future implications of their present behaviour, understand how their present behaviour is meaningfully related to desired future goals, and how their present behaviour serves the attainment of those future goals. Other people live in the present and do not anticipate the future consequences of their present behaviours (Milfont, & Demarque, 2015).

The Consideration of Future Consequences (CFC) is (Strathman, Gleicher, Boninger, & Edwards, 1994) is one of the FTP measures for assessing individual differences in construct of future perspective. The CFC is a motivational construct, it enables an individual to perceive what is his or her future might require or demand behaviorally, in order to attain desired outcomes (Pertrocelli, 2003). The CFC hypothesizes that particular individuals resolve the dilemma between present and future in favor of one or the other is a relatively stable characteristic. Moreover, individuals low in CFC are expected to focus more on their immediate, versus distant, needs and concerns, and are thus expected to act to satisfy these immediate needs. At the extreme end, individuals may not even consider future consequences of their behavior. People who are high in CFC are expected to consider the future implications of their behavior and to use their distant goals as guides for their current actions. At the extreme end, they may not consider immediate implications at all (Strathman et al., 1994).

Strathman and colleagues (1994) found that college students who scored higher in CFC also expressed more pro-environmental attitudes toward offshore drilling. Lindsay and Strathman (1997) studied a sample of Missouri residents by means of a telephone survey and found that higher CFC significantly predicted recycling behavior. Joireman, Lasane, Bennett, Richards, and Solaimani (2001) also used CFC in a sample of college students and reported that higher CFC was positively related to stronger intentions to engage and to more frequent actual engagement in pro-environmental activism. In a study of citizens in a Mexican city, stronger CFC was positively related to water conservation (Corral Verdugo, Fraijo-Sing, & Pinheiro 2006), affinity toward diversity, and general ecological behavior (Corral-Verdugo, Bonnes, Tapia-Fonllem, Fraijo-Sing, Frias-Armenta, & Carrus 2009).
A significant amount of studies has indicated that knowledge about the causes of climate change is an important predictor of climate change mitigation intentions (Bord, O’Connor, & Fisher, 2000; Hidalgo, & Pisano, 2010; O’Connor et al., 1999; Whitmarsh, 2009a). Lazo and colleagues (2000) reported that more knowledgeable persons perceive higher risk than do less knowledgeable persons. Regarding to global climate change, lack of basic knowledge about climate change has been noted as an important hindrance for mitigation and adaptation of climate change (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007; Semenza et al., 2008).

Environmental Attitudes are “the collection of beliefs, affect, and behavioural intentions a person holds regarding environmentally related activities or issues” (Schultz, Shriver, Tabanico, & Khazian, 2004, p. 31). Ecocentrism and anthropocentrism are the two distinct value orientations shaping individuals’ concern for the environment (Thompson & Barton, 1994). Both ecocentric and anthropocentric individuals are concerned for the environment, but their motivation and values underlying their concern are different. Anthropocentric individuals’ concern is to protect environment for maintaining and enhancing quality of life for humans. Ecocentric individuals attach importance to the environment or the nature for its intrinsic value and would engage in climate change mitigation behaviour, even if it involves some sort of sacrifice on their part.

Environmental attitudes are strongly associated with concern for, awareness of risks, and supportive action for risk prevention. For example, Nilsson, von Borgstede, and Biel (2004) found that willingness to support climate change mitigation policy was positively related to ecocentric values. Some studies have confirmed that people who ecocentric values are more likely to report concern about the risks and consequences of climate change (Brody, Zahran, Vedlitz, & Grover, 2008; Corner et al., 2011; Poortinga et al., 2011) and are less likely to be sceptical about the reality or seriousness of the problem (Whitmarsh, 2011).

Gender has been reported in the majority of the recent studies pertaining to beliefs about global climate change as having an influential effect. Research consistently indicates that women are more likely to believe in global warming (Bord & O’Connor, 1997; Malka, Krosnick, & Langer, 2009; McCright, 2010; Park, & Vedlitz, 2013; Semenza et al., 2008; Sunblad, Biel, & Garling, 2007), gather information on global warming (Scannell, & Gifford, 2013), engage in consumer behaviours to mitigate global warming (Bord, & O’Connor, 1997; Meier, & Christen, 2012; O’Connor, Bord, & Fisher, 1999; Park & Vedlitz, 2013), and support climate change mitigation policies (Maibach, Leiserowitz et al., 2012; McCright, Dunlap, & Xiao, 2013). Future time perspective studies indicate the gender effect, for example, Zimbardo, Keough, and Boyd (1997) found that in general college-aged men are more present-oriented than their female counterparts, and females are more future-oriented.

The Aim of the Study

Considering the importance of future time perspective in climate change education and the research gap in the literature, this research was intended to shed light on how and to what extent future time perspective along with perceived knowledge and environmental attitudes might be useful in explaining the undergraduate students’ beliefs about occurrence, causes and consequences of global climate change. This study attempted to shed light into following research questions:
1. How well do perceived knowledge and environmental attitudes predict the *belief about occurrence, causes and consequences* of global climate change, controlling for gender?

2. To what extent does the future time perspective predict three beliefs about global climate change (i.e., belief about occurrence, causes and effects about global climate change) over and above the other variables, controlling for gender?

**Method**

**Research Participants**

One thousand five hundred and eighty undergraduate students (n=1580) from one of the largest state universities in Turkey (METU) participated in the study during the fall semester of 2014. 55.8% (N=881) of the participants were female and 44.2% (N=699) of them were male. Mean age of the undergraduates was 20.81 (SD= 1.52). 44.9% (N=709) were from Faculty of Engineering; 18.2% (N=288) were from Faculty of Arts and Science; 14.8% (N=234) were from Faculty of Economics and Administrative Sciences; 14.8% (N=234) were from Faculty of Education; and finally 7.3% (N=115) were from the Faculty of Architecture. In terms of the grade level, 42.4% (N=670) of the undergraduate students were sophomore; 23% (N=364) of them were junior, 20.1% (N=318) of them were freshman; and 14.4% (N=228) of them senior students.

**Sampling Procedures**

Volunteer undergraduate students were selected through convenient sampling method. In order to reflect the departmental and grade level diversity in the sample of the study, the students taking elective courses were chosen intentionally, as these courses are open for all students from different departments at different grade levels. The permission University Human Subjects Ethics Committee was obtained in order to collect the data. The pilot study was carried out with the participation of 197 volunteer undergraduate students in order to test the validity and reliability of the instruments during the summer school held in July of 2014. In the light of the results proposed in validity and reliability analyses, the main study was conducted. Both pilot and main study were conducted in classroom environment under standard conditions. All undergraduate students filled out the questionnaire on voluntary basis, and all the data were collected by the researcher. It took students approximately 10 minutes to complete the entire questionnaire.

**Instruments / Scales**

*Future Perspective Related Beliefs about Global Climate Change Scale* was used as data collection instrument. It is a paper and pencil measure containing 55 closed-ended questions under five distinct dimensions. Each dimension, however, consists of a scale. *Demographic Form* consists of four questions to provide information about students’ gender, age, department and grade level. *Beliefs about Global Climate Change Measure*
(BGCCM) originally developed by Heath and Gifford (2006) adapted into Turkish by the author. It contains a total of 14 questions. The responses for all questions are given in five-point Likert format ranged from 1 (strongly disagree or very unlikely, depended on the wording of the question) to 5 (strongly agree or very likely). Perceived knowledge about climate change was measured by asking the following question: “I would say my technical knowledge about global climate change is minimal, limited, moderate, extensive, and professional.” It was coded from 1 to 5. Environmental Attitude Scale (EAS) originally developed by Thompson and Barton (1994) to assess eco-centric, anthropocentric attitudes and apathy for environment. The scale was adapted into Turkish by Eryigit (2010). For this study only ecocentric and anthropocentric items were utilized. Ecocentric attitudes are measured with 12 items and anthropocentric attitudes are measured with 10 items. The scale items are rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Consideration of Future Consequences Scale (CFCS) originally developed by Strathman and his colleagues (Strathman et al., 1994) was adapted into Turkish by Cinan and Dogan (2013). It consists of two dimensions as one assessing the concern with future consequences (CFC-Future) and another one assessing the concern with immediate consequences (CFC-Immediate). CFCS comprises 14 items related to future (7 items) and immediate (7 items) consequences of present actions. Responses are on a 7-point scale (1 = very uncharacteristic of me; 7 = very characteristic of me) with reverse scoring of 7 immediate-focused items. The high score indicated future time perspective and low score indicated present time perspective.

Research Design

In order to explore the research questions of this study i.e., whether the future time perspective would have unique role over and above the other variables in predicting the three beliefs about global climate change (i.e., belief about occurrence, causes and effects of global climate change), three separate hierarchical multiple regression analyses were conducted with three outcome and four predictor variables. The outcome (dependent) variable in this study was beliefs about global climate change and composed of three conceptually different beliefs: (a) the belief that global climate change is occurring, (b) the belief about possible causes of global climate change, and (c) the belief of possible consequences of global climate change. The predictor variables are perceived knowledge about global climate change, environmental attitudes with two distinct variables as ecocentrism and anthropocentrism, and future time perspective. Gender was the control variable. In each of three heierarchical regression analyses, gender was entered at the first stage of the regression as the control variable; perceived knowledge about global climate change, ecocentric and anthropocentric attitude were added at the second stage; and finally, future time perspective was entered at the third stage. Before conducting regression analyses, in order to understand the participants’ positions and characteristics concerning the variables of the study, descriptive analyses of the undergraduate students’ responses to the items of scales were carried out by means of calculating the frequencies in percentage. Furthermore, prior to regression analyses, in order to determine whether linear relationships exist among the variables of this study correlation analysis was conducted.
Research Findings

Undergraduate Students’ Beliefs about Global Climate Change: Undergraduate students were asked to indicate their beliefs about global climate change on three dimensions: that global climate change is occurring, is caused mainly by humans, and will have negative consequences. Majority of the undergraduate students believed that global warming was occurring (87.7%); caused mainly by human activities (78.1%); and would bring about negative consequences (93%). On the other hand, 16.3% of them were not sure or 5.9% did not believe the occurrence of climate change; 15.4% were unsure about or 6.5% did not believe that human activities caused global climate change and 9.6% believed that global warming was due to natural causes; and 25% was not sure about or 10% did not believe that consequences of global warming would be harmful for the environment.

Undergraduate Students’ Future Perspective: Almost all of undergraduate students (92.6%) declared that their behavior was generally influenced by future consequences; and when making a decision they thought of how it might have affected them in the future (95.5%).

According to the results of the bivariate correlations among the variables of the study presented in Table 1, among 64 correlations, 62 of them were significant. To be more precise, the correlation coefficients among all variables of the study were statistically significant, except for gender which was not significantly correlated with perceived knowledge ($r = -.02, p > .01$), and belief about causes ($r = -.02, p > .01$). However, gender was significantly correlated with all other variables. The highest positive correlation coefficient is between belief about causes of GCC and belief about consequences of GCC ($r = .57, p < .01$). There are strong correlations between the belief about consequences of global climate change and belief about causes ($r = .57, p < .01$); between belief about consequences and belief about occurrence ($r = .51, p < .01$); and between belief about occurrence and belief about causes ($r = .44, p < .01$), respectively. This means that, however, believing that climate change is a human induced phenomenon and that it brings about harmful effects for human and natural environment depend on and/or relate with the belief that it really occurs. As expected ecocentric attitude negatively correlated with anthropocentric attitude ($r = -.25, p < .01$), and positively correlates with gender ($r = .20, p < .01$); perceived knowledge ($r = .17, p < .01$); belief about occurrence ($r = .33, p < .01$), causes ($r = .31, p < .01$), and consequences of global climate change ($r = .39, p < .01$); anthropocentric attitude is negatively associated with all variables. Finally, future time perspective has moderate negative correlation with anthropocentric attitude ($r = -.21, p < .01$); low positive correlations with belief about consequences ($r = .18, p < .01$), belief about causes ($r = .15, p < .01$), and belief about occurrence ($r = .14, p < .01$) of global climate change. This means that consideration of future consequences of current behaviors relates with three beliefs about global climate change and environmental attitudes (Table 1).
Table 1
**Pearson Correlation Coefficients of the Study Variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived knowledge about GCC</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belief about occurrence of GCC</td>
<td>.18**</td>
<td>.29**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belief about causes of GCC</td>
<td>-.02</td>
<td>.21**</td>
<td>.44**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belief about consequences of GCC</td>
<td>.11**</td>
<td>.23**</td>
<td>.51**</td>
<td>.57**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecocentric attitude</td>
<td>.20**</td>
<td>.17**</td>
<td>.33**</td>
<td>.31**</td>
<td>.39**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropocentric attitude</td>
<td>-.12**</td>
<td>-.10**</td>
<td>-.17**</td>
<td>-.22**</td>
<td>-.21**</td>
<td>-.25**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future time perspective</td>
<td>.09**</td>
<td>.14**</td>
<td>.19**</td>
<td>.15**</td>
<td>.18**</td>
<td>.26**</td>
<td>.21**</td>
<td></td>
</tr>
</tbody>
</table>

** p<.01 (2-tailed)

According to the results of hierarchical regression analysis presented in Table 2, the results of standardized coefficients indicated that ecocentric attitude positively predicted the undergraduate students’ belief about occurrence of global climate change with a highest beta value (β = .24, p<.05), followed by perceived knowledge about global climate change (β = .23, p<.05), gender (β = .12, p<.05), and future time perspective (β = .08, p<.05). Moreover, it was found that anthropocentric attitude (β = -.06, p<.05) negatively predicted the undergraduate students’ belief about occurrence of global climate change. To be more precise, having more ecocentric attitude and perception of being more knowledgeable about global climate change, with less anthropocentric attitude contributed to the undergraduate students’ belief that global climate change is a real phenomenon and occurring.

Table 2
**Summary of R², ∆R² and Beta Values in Hierarchical Regression Analysis for Variables Predicting Three Beliefs about GCC**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Belief about occurrence of GCC</th>
<th>Belief about causes of GCC</th>
<th>Belief about consequences of GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R²</td>
<td>∆R²</td>
<td>B</td>
</tr>
<tr>
<td>Model 1</td>
<td>.031</td>
<td>.031</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>.120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>.184</td>
<td>.154</td>
<td>.147</td>
</tr>
<tr>
<td>Perceived knowledge</td>
<td>.231</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecocentric attitude</td>
<td>.240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropocentric attitude</td>
<td>-.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3</td>
<td>.190</td>
<td>.006</td>
<td>.148</td>
</tr>
<tr>
<td>Future time perspective</td>
<td>.075</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<.05.

In addition, the results of standardized coefficients indicated that ecocentric attitude made the strongest unique contribution to explaining the undergraduate students’ belief about causes of global climate change (β = .253, p<.05), followed by anthropocentric attitude (β = -.149, p<.05) and perceived knowledge about global climate change (β = .143, p<.05). To be more precise, having ecocentric attitude and perception of being more
knowledgeable about global climate change, with less anthropocentric attitude contributed to the undergraduate students’ belief that global climate change has been caused mostly by human activities.

Finally, ecocentric attitude made the strongest unique contribution to explaining the undergraduate students’ belief about consequences of global climate change ($\beta = .321, p < .05$), followed by perceived knowledge about global climate change ($\beta = .159, p < .05$), and anthropocentric attitude ($\beta = -.104, p < .05$). However, future time perspective ($\beta = .049, p < .05$) made the weakest contribution to explaining belief about consequences of global climate change; and the contribution of gender was found not to be significant ($\beta = .031, p > .05$). To be more precise, having ecocentric attitude and perception of being more knowledgeable about global climate change, with less anthropocentric attitude contributed to the undergraduate students’ belief that global climate change brings about harmful consequences.

**Discussion**

The results of hierarchical regression analysis revealed that perceived knowledge about global climate change, anthropocentric attitudes, ecocentric attitudes, gender and future time perspective made significant contribution to prediction of undergraduate students’ beliefs that global climate change is occurring, caused by human activities and will bring about harmful consequences. Collectively, the predictor variables explained 19% of the variance in the undergraduate students’ belief about occurrence of global climate change; 14.8% of the variance in the undergraduate students’ belief about causes of global climate change; and 19.7% of the variance in the undergraduate students’ belief about consequences of global climate change. In explaining all three beliefs, ecocentric attitude and perceived knowledge about global climate change were found to be the highest contribution. Future time perspective’s contribution although low, was found to be significant in all three beliefs about global climate change. However, gender made no contribution to the undergraduate students’ belief that global climate change is caused by human activities. The present study findings suggested that ecocentric attitude and perceived knowledge are mainly two influential factors for the undergraduate students’ beliefs about global climate change.

As the findings indicated, despite beliefs of the majority, there is still an important minority who believe that global climate change is caused by natural processes, or its consequences would be harmful, or it is not occurring at all. These findings are consistent with the results of other national and international surveys about the Turkish public perceptions about global climate change (Ministry of Environment and Urbanization, 2012; Ipsos MORI, 2014). Moreover, most of the researchers reported the same trend in public beliefs elsewhere in the world (Gallup Poll, 2013; Eurobarometer, 2014; Leiserowitz, Maibach, Roser-Renouf, Smith, & Hmielowski, 2012; Shao, 2012; Reser, Bradley, Glendon, Ellul, & Callaghan, 2012).

Majority of the undergraduate students perceived that they had moderate (49%) or limited (25%) knowledge about causes and consequences of global climate change. These findings confirmed the results of previous studies suggested that the Turkish students did not have adequate knowledge about causes and consequences, and more importantly, they were not aware of the link between individual behaviors and the causes of climate change (Senel, & Gungor, 2008; Kahraman et al., 2008; Bozdogan, 2009;
Sever, 2013; Ozdem et al., 2014); and of a national survey stated that people in Turkey have a concern and interest but no adequate knowledge about a climate change (Ministry of Environment and Urbanization, 2012).

Likewise, international research on individuals’ knowledge of climate change often revealed that most people, even those considered well-educated, have a minimum understanding of the causes of climate change (Bord, O’Connor, & Fisher, 2000; Hidalgo & Pisano, 2010; O’Connor et al., 1999; Whitmarsh, 2009b). As Grotzer and Lincoln (2007) pointed out, the lack of knowledge about climate change may not be surprising given the complexity of the issue and lack of opportunity to learn about it for, “the current adult population grew up at a time when the curriculum did not offer the understandings necessary to enable people to understand the language or pattern of nature in general or climate change in particular” (p. 267).

The findings revealed that the undergraduate students had ecocentric attitude, rather than anthropocentric attitude towards environment. They believed conserving nature and respecting environment for the sake of nature, and not because of its perceived importance to human beings. This finding was confirmed by many studies in Turkey which consistently showed that youth in Turkey often had an ecocentric attitudes (e.g., Tuncer, 2008; Tuncer, Ertepinar, Tekkaya, & Sungur, 2005).

As the results indicated, the undergraduate students consider the future outcomes of their present behaviors, think of and care about their future. These findings have been confirmed by some other studies emphasizing influence of cultural differences in socialization on future time perspective. For example, Gailly (1982) argued that social and cultural differences determined in motivation and future time perspective. Gailly found out that the Belgian and Turkish youth differed in future time perspective and motivational contents since their parents differed in degree of modernism and in value orientations. On the other hand, Kabasakal and Dastmalchian (2001) proposed that like in other Middle East countries, in the Turkish culture believing fate and destiny was a strongly rooted cultural aspect, and the concept of destiny in Islam was a factor negatively influencing future orientation of societies.

However, despite the concept of destiny observed at the societal level, the young generation in Turkey tended to be more future oriented, as globalization and modernization changed the traditional Turkish society. Likewise, the most recent study conducted to explore the cultural differences in terms of time perspective with a sample (N=7942) from 23 countries, including Turkey also confirmed this finding. The study found that the Turkish participants were rather future oriented than present. In that study, the mean scores of the Turkish sample (N=432) were reported that future perspective as 3.89 out of 5 (SD=.50) (Sircova et al., 2015).

According to the results of the study female students had stronger beliefs that global climate change is occurring; a human induced problem; and will have negative consequences; had more ecocentric attitudinal motivation, and future time perspective than did male students. The findings of this study confirmed the gender-effect which has been referred extensively by most of environmental or sustainability studies both in Turkey (e.g., Tuncer, Ertepinar, Tekkaya, & Sungur, 2005; Sahin, Ertepinar, & Teksoz, 2012; Yılmaz, Boone, & Anderson, 2004) and in other countries (e.g., Milfont & Duckitt, 2010; Zelezny, Chua, & Aldrich, 2000; Milfont, 2012).

Long-term and a deep-rooted social change for sustainability can be enhanced progressively through education (Dobson, 2003). In the face of global climate change,
higher education institutions should take the responsibility to educate young generation in a way to equip them with necessary knowledge, skills and competences that enable them to encounter the future challenges and unforeseeable harmful effects of global climate change. Mitigation and adaptation related to negative effects of global climate change require an informed and engaged public and an education system that provides students with the knowledge they need to make informed choices about responses to climate change.

Climate change will impact significantly on the wellbeing of future generations. Therefore, it is important to enhance future thinking skills of university students. Students should be aware that their current actions and decisions will affect on future environmental problems. Thus, education and training should be relevant for this purpose. Through certain appropriate instruction methods such as scenario construction, role playing and simulations, case studies, and by making use of information technologies, educational programs and university courses should be designed to enable students to imagine how the future could be and how their present actions and decisions will impact the life of their own and the other people living in their country or in other parts of world (Pruneau et al., 2016).

Education is a personal endeavour to encounter the future and education plays important role in defining future orientations of students. Therefore, higher education institutions should enable students to involve in constructing alternative and desirable future scenarios; make students see undesirable future effects of unsustainability, and create favorable, open-minded and reflective learning environments where students can find out their potential for a sustainable future and freely discuss and negotiate future solutions for a sustainable world. Thinking about desired and preferred future enables students to realize the positive changes they can make and individual responsibilities in making changes (Iliško, Skrinda, & Mičule, 2014).

Within the above mentioned context, in the face of negative consequences of a global climate change which have been usually perceived as a temporally distant threat, climate change education as a promising remedy to mitigate and adapt to negative consequences, should include and focus future time perspective as an important learning objective and learning outcome at higher education programmes.

As an emerging economy with rapid industrialization mainly depending on non-renewable energy resources and socially and environmentally vulnerable country, Turkey urgently needs to mobilize its young population for adaptation and mitigation of global climate change. The climate change education, therefore, can be a strong instrument to enable large population of young people to acquire knowledge, values, and skills to create a sustainable future.

Recommendations for Further Studies

The findings of the present study suggested that about 19% of the variance in beliefs about occurrence; 15% of the variance in beliefs about causes; and 20% of the variance in beliefs about consequences accounted for a linear combination of the selected cognitive and psychological variables. Therefore, it must be acknowledged that further research is needed to explore other determinants that may play an important role in undergraduate students’ beliefs about global climate change. Further research should examine the effects of other socio-demographic attributes other than gender, such as
Exploring the Role of Future Perspective in Predicting Turkish University Students’ socio-economic status and situational factors including economic constrains, social pressure, advantages and disadvantages of behaviors concerning global climate change should be carefully explored in the future research.

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Abstract

This article describes one school’s response to the inclusion and education of refugee and asylum seeker students within a mainstream educational setting. Australian government statistics released on 31 March 2016 stated that there were presently 50 children being held on Nauru, 17 children held in detention on the mainland and 317 children held in community detention on the mainland (ChilOut, 2016). Refugee and asylum seeking students are subject to the impact of war and conflict; the cumulative time spent in detention may severely limit a young person’s access to formal education. Whilst it is understood that children will benefit from access to education, the reality is that “little appears to have been written on asylum seekers” in an educational context (Reakes, 2007, p. 94). This represents a concern when it is acknowledged that “sustaining teachers in culturally and linguistically diverse schools has been a prominent issue for years” (Williams, Edwards, Kuhel, & Lim, 2016, p. 17). This article responds to the limitations of current literature by articulating considerations that would likely assist other schools seeking to establish similar inclusive frameworks. Specifically, the thematic grouping of staff observations seek to articulate the cultural considerations that likely influence the sustainability of an inclusive and liberating approach to integrative school enrolment. This paper draws on the authors’ observations and experiences in schools, the published literature and the observations of the two authors – specifically, drawing on their educational and therapeutic expertise. These observations are then grouped into themes outlined by Akinsulure-Smith and O’Hara (2012) as key reasons for therapeutic referral, namely: employment barriers, medical challenges, language barriers, social services and legal challenges.

*Keywords*: refugee, asylum seeker, pastoral care, asylum seeker students.
Challenges to Sustaining the Inclusivity of New Arrivals

The integration of students from a refugee or asylum seeker background within a mainstream school is necessarily fraught with complexity. According to Cassity and Gow (2005), “Schools are endowed with the task of transforming these young people into national citizens and coordinating their cultural identities” (p. 52). It has been suggested that education is prized amongst refugee cohorts who are alert to “…the high stakes they had in making sure that school worked for them” (Uptin, Wright, & Harwood, 2013, p. 128). The advantages afforded by education extending to include “…the improvement of physical and mental well-being for children and adolescents, including refugee children” (Mace, Mulheron, Jones, & Cherian, 2014, p. 985). However, the educational experience is necessarily complicated by “a range of needs and experiences for which existing [educational] procedures were not always appropriate.” (Reakes, 2007, p. 105). The practicalities of integrating asylum seeker and refugee young people into mainstream schooling is likely challenged by concerns such as minimal knowledge relating to how schools are able to best support young people and the challenges associated with integration within a predominantly ‘Australian’ cohort of students (Uptin, Wright, & Harwood, 2013, p. 126–130). Hence the need for individual schools and the educational system as a whole to consider sustainable programs that foster individual growth whilst also ensuring connections between individuals (de Souza, 2016, p. 131).

It has been suggested that “Australia has one of the harshest regimes for the processing of asylum seekers” (Zion, Briskman, & Loff, 2012, p. 67). Mandatory detention was introduced in Australia in the year 1992 by then Prime Minister, Paul Keating. This policy requires that nationals from other countries without a visa be held until granted a bridging or alternative visa (Philips & Spinks, 2013). This process can take months or even years. Some will argue that this approach – specifically transfers to the offshore immigration detention centres of Manus and Nauru – represents a direct response to deaths at sea – a legitimate concern given that 15 children were estimated to die at sea between 2008 and 2013 alone (Australian Human Rights Commission, 2014a). Yet, the reality exists that in July of 2013 some 1,992 children were being detained (Australian Human Rights Commission, 2014a).

In 2014 the United Nations Committee Against Torture was observed to have:

…formally recorded its serious concerns about the transfer of asylum seekers to Nauru and Manus. The committee noted that the combination of harsh conditions, protracted periods of closed detention and uncertainty about the future was reported to have created ‘serious physical and mental pain and suffering’ and urged Australia to take all necessary measures to guarantee that asylum seekers were protected against torture and cruel, inhuman or degrading treatment, regardless of when or how they had arrived. (Gleeson, 2016, p. 264).

It has been suggested that mandatory detention risks eroding initial resilience and has an adverse effect upon health and well-being (Mace, Mulheron, Jones, & Cherian, 2014, p. 991). Not only do the conditions of the detention facility likely contribute to mental health concerns, but detention facilities are ill-equipped with treatment options (Zion, Briskman, & Loff, 2012, p. 70).
Furthermore, there exist specific concerns about detaining young people in formal detention. For example, Consultant Paediatricians Elliott and Gunasekera (2015) recommended that no child be held in Nauru nor any formal detention centre. Gleeson (2016) provides specific and repeated descriptions of “sexual, physical and emotional abuse of children in the Nauru RPC” (p. 312–314). Yet, at least 67 children still appear to reside in such facilities. Though educational opportunities are reported to exist in formal detention, questions have been raised as to whether the services provided are comparable with those in the community (Australian Human Rights Commission, 2014b).

Participants – Inclusivity of Refugee and Asylum Seeking Students

The Government policies that determine the processing and treatment of young people arriving without relevant visas, coupled with the commitment of this school towards providing a liberating and inclusive educational experience have provided the conditions for which students from asylum seeker and refugee backgrounds have enrolled in this specific school in significant numbers. Over time, the countries of origin have shifted from those leaving the African continent, to a greater influx of students from the Middle East. At the time of publication, in excess of 40 different cultural backgrounds were represented amongst student enrolment.

This article has been informed by the observations of an Assistant Principal (Pastoral) and Counsellor working in a Catholic school located in Brisbane, Australia. According to Laine:

*Pursuing a sustainable way of living is about broadening the whole educational system’s way of thinking about new school culture. Without acknowledging the cultural perspective, the pursuit of sustainability fails* (2016, p. 65).

Attending to the culture of this specific school, it is meaningful to note that this is a Catholic high school that deliberately strives towards “…a liberating education, based on a gospel spirituality, within an inclusive community committed to justice and solidarity.” (Edmund Rice Education Australia, 2016). As such, inclusion of vulnerable and minority cohorts such as refugee and asylum seeking students is strongly supported.

Refugee and asylum seeking students represent distinct entities in and of themselves. An asylum seeker is understood to be someone who has fled their country due to fear of persecution but has not yet had their claim assessed. The practical application within Australia being that such a person has limited security with reference to length of stay and reduced educational options. In contrast, a refugee is understood to be someone who has fled their country due to fear of persecution and has not only had their claim assessed — a process that can take years — but has also been found to have their circumstances verified. The ramifications are many but include permanency, and significantly greater exposure to affordable tertiary education. Acknowledging the differences between these two groups, it also bears highlighting that defining any individual as belonging to either grouping represents a gross simplification that risks ignoring an “individual’s needs and strengths” (Uptin, Wright, & Harwood, 2013, p. 135). The injustice of such a simplification is even more apparent when it is acknowledged that in many cases “components of identity are the very factors that led to the client’s forced migration” (Akinsulure-Smith & O’Hara, 2012, p. 47).
Design – Theoretical Grouping of Referrals

Akinsulure-Smith and O’Hara (2012) have described therapeutic considerations relevant to working with this cohort. In particular, they identified five key areas for referral, namely: employment barriers, medical challenges, language barriers, social services and legal challenges. These five domains offer a framework for describing the implications for a mainstream school seeking to offer an inclusive education to this cohort. These domains will now be used to group the observations of two staff members along theoretical lines.

Methodology – Themes Arising

Employment: Educational Barriers

The influence of cultural requirements, war/conflict, resulting period of transit towards presumed safety and culminating time spent in detention may severely limit a young person’s access to formal education – meaning that some students may in fact be well into their adult years (Reakes, 2007, p. 97). This theme of disruption may continue to be reflected in their new school context whereby few likely start at the beginning of term (Strauss & Smedley, 2009, p. 4). Inconsistencies between a student’s age and their educational level have been reported elsewhere (Cassity & Gow 2005; Uptin, Wright, & Harwood, 2013). Such inconsistencies may arise as a result of multiple factors, not least: inability to access documentation/loss of documentation in transit; long transit times with increased likelihood of incorrect documentation (Mace, Mulheron, Jones, & Cherian, 2014, p. 990). As such, whether the mainstream school is aware or not, they may well have enrolled students past the traditional age of 18 years.

Ordinarily, Queensland state law would call for adults above the age of 18 to enrol in a mature aged state school (Queensland Government, 2015). Furthermore, in an attempt to “create safe and supportive environments for children and young people when receiving services and participating in activities which are essential to their development and wellbeing, such as child care, education, sports and cultural activities” staff, inclusive of volunteers and trainee students, must hold a blue card if coming into contact with young people (Queensland Government, 2016). No such requirement exists when the asylum seeker is placed as a student within a mainstream school. As such, schools are cautioned to remain conscious that any adult – even a student of mature age - must recognise the vulnerabilities of minors and ensure appropriate sexual boundaries and legal responsibilities are maintained.

Medical: Trauma

Asylum seeking and refugee students will, by definition, present with claims of having been subject to persecution. These students frequently describe the grief associated with leaving behind family and friends, coupled with the burden associated with the responsibility associated with finding asylum themselves and then attempting to find passage for the rest of their family. Regardless of the legitimacy of any claim for refugee status, Australia’s commitment to mandatory detention undoubtedly cements exposure to traumatic events. In 2014, the Australian Human Rights Commission found that
“...the mandatory and prolonged immigration detention of children is in clear violation of the Convention on the Rights of the Child” (2014b). The physical environment having been described as “...tents – infested with insects and rats – offered little privacy or room to move between the camp stretchers that served as beds” (Gleeson, 2016, p. 32). As such, even common school experiences have potential to cause a flooding of previous memories. For example, a teacher’s attempt to regain control of a noisy classroom by using abrupt demands may inadvertently resemble the authoritative position taken by guards in the detention centre. The conditions on a school camp may mirror aspects of those experiences associated with communal living in minimal housing conditions, exposure to the extremes of weather and the significant lack of control over one’s physical placement and consequent human interactions associated with these detention settings. Recognising the capacity for current circumstances to augment the distress caused by historical events, careers counselling and post-school transition planning needs to be managed with extreme tact given that asylum seekers on bridging visas are at times prohibited from applying for employment or engaging in further study after the completion of grade 12.

When supporting young people from an asylum seeker background, there is a need to recognise that this is a population who have been observed to express their distress through somatic symptoms (Mace, Mulheron, Jones, & Cherian, 2014; Mann & Fazil, 2006, p. 59). The Diagnostic and Statistical Manual of Mental Disorders, 5th edition describes Somatic Symptom Disorder as typically having “...multiple, current, somatic symptoms that are distressing or result in significant disruption of daily life” (American Psychiatric Association, 2013, p. 311). It is recognised that somatic symptoms are more likely to present in cases of early trauma and “...cultural/social norms that devalue and stigmatize psychological suffering as compared with physical suffering.” (American Psychiatric Association, 2013, p. 310).

Challenging the notion that symptoms are problematic can feel counterintuitive. Yet, when an individual present with repetitive physical ailments or heightened symptoms, staff are challenged to make sense of the somatic symptom in a manner that neither dismisses the individual’s reality nor ignores its possible meaning. Questions must be asked as to whether a particular symptom aids or impairs the student’s overall level of function. For example, physical symptoms may in fact serve as a useful means of help seeking, or engaging others in a discussion about personal distress. As such, a desirable response might include validating that the student’s experience of the physical symptom is likely very real, even if it’s meaning might be worthy of further exploration.

Another common observation is that of hyper vigilance – a feature of Post-Traumatic Stress Disorder – that involves an over arousal of the senses. Whilst this symptom may be conceptualised as part of a psychiatric diagnosis, simultaneously, it will be important to recognise that until recently hyper vigilance may well have been a protective factor for the individual and essentially, reflects that the individual’s coping mechanisms have changed as quickly as have their physical surroundings. Anxiety Disorders are typically characterised by ‘excessive’ worry – the subjectivity of this term is apparent when known trauma or unknown history of a student is taken into account. As such, there may be call to explicitly acknowledge that current, repetitive and ongoing anticipation of distress may represent a psychological response to a history steeped in excess exposure to danger or stressors and as such, might benefit from professional intervention.
Though “prolonged, mandatory detention of asylum seeker children causes them significant mental and physical illness and developmental delays” (Australian Human Rights Commission, 2014b), it is recognised that this same population is unlikely to accept mental health services on account of “...stigma, financial constraints, fear of missing school, language barriers and the low priority of mental and developmental health compared with other physical issues.” (Mace, Mulheron, Jones, & Cherian, 2014, p. 990). Even if a young person does engage with specific mental health services, there is a need to reflect upon the appropriateness of assessments done in English. For example, when assessing a person’s risk of self-harm or suicidal ideation, questions should be asked about perceived safety and identifiable risks. A young person may be able to ‘guarantee their safety’ as they relate the term ‘safety’ to mean no perceived imminent risk within their environment. As such, this phrase is unlikely to have the usual applicability to mean that the child is able to contract that they won’t harm themselves. Recognising the value associated with employing therapeutic staff and engaging with culturally sensitive agencies experienced in supporting survivors of trauma, the challenges engaging this cohort within traditional mental health contexts requires schools to recognise that it is the interactions of all staff that are likely to create meaningful change.

Students of refugee and asylum seeker background are likely to require specialist English lessons. Whilst the term ESL or English as a Second Language is applied, the reality for these students is that English may be a third, fourth or even fifth language. This reflects the thousands of languages spoken in Africa, influence of Arabic within Islam, and those languages acquired in transit (e.g. Indonesian). In addition to the obvious language difficulties associated with not having English as a first language, many students have also had a significantly interrupted education in their country of origin. This can be due to many factors including war and conflict, ethnic marginalisation and gendered limitations. Regardless of the cause, students may have limited capacity to interpret – or receive – written documents from their country of origin. In the event that the parent/s of the student have travelled with the student, the capacity of the parent to support the emotional well-being of the student may be limited on account of the influence of their own lived experience and traumas upon their own emotional well-being (Strauss & Smedley, 2009, p. 4). As such, schools may be required to call upon the services of an interpreter in order to assist a student to receive or express information. This is likely a costly service that is linked directly to a cohort for whom there may be no government funding on account of the student’s mature age. As such, other students fluent in English and the native dialect may, by necessity, be utilised, assuming the permission of all parties.

Social Services: Independent Students

The term ‘unaccompanied minor’ is “a broad term used to describe a non-citizen, under 18 years of age who does not have a parent to care for them in Australia” (Australian Human Rights Commission, 2014). In observing these students, it has been noted that many face the challenge of searching for accommodation despite limited financial means, often balancing competing schedules of school attendance and house inspections. They are tasked with developing an instant capacity to negotiate medical and immigration...
systems in a country whose systems are foreign to them and using a language that they have only recently begun to acquire. As young adults, they must forsake the common adolescent processes of separation, differentiation and individuation from parents in favour of expensive, time-sensitive attempts to connect with family members back home using the electronic means within their financial reach. The contrast between the highly structured, rule bound school environment and the autonomy of their own lives could not be much greater. By day these are students who might engage with a teacher in order to proof read an assignment, by evening they are solely responsible for all aspects of their wellbeing. It is not uncommon for these students to articulate that it can be challenging to remind themselves of the value placed upon attendance, assessment and uniform when their thoughts so often turn to the different realities that exist in the country of origin and for people left behind.

Therapeutically, the chasm between the individual as student versus individual living independently presents during moments of crisis – often threats of self-harm or suicidal ideation – in which the usual attempts to engage a family member as part of a least restrictive safety plan no longer represents an option. For such children, their guardian:

...falls to the immigration minister, the same person responsible for implementing the government’s policy of sending offshore everyone arriving by boat, without exception. Advocates and medical professionals have argued that this dual role creates an irreconcilable conflict of interest for the minister (Gleeson, 2016, p. 125).

Clearly, the capacity of a formalised guardianship arrangement such as this is not only ethically questionable but leaves an already vulnerable young person without any secure base, or attachment figure. Once a minor turns 18, they are no longer allocated any guardian. The reality being that a school employee – be that teacher or counsellor – may well represent the first point of contact in relation to a medical, housing or mental health concern.

Legal: Child Protection and Restrictions

The conditions associated with mandatory detention have been recognised to place children at risk of being victims of abuse. Specifically, it was understood that children were not infrequently exposed to violence and self-harm (Gleeson, 2016, p. 318; Zion, Briskman, & Loff, 2012, p. 69). Yet, those workers employed on Nauru to protect these children have not always been screened in line with standards established on the mainland. For example,

There was no way to perform ‘working with children’ checks for Nauruan employees, meaning they were recruited to work in close contact with children after simply answering a few ‘behavioural questions’, signing a statutory declaration and agreeing to a code of conduct. (Gleeson, 2016, p. 331).

Furthermore, even if a risk to the young person was identified, the likelihood of an appropriate response has been called into question. Specifically, “Psychiatrists were asked by the child protection system to make assessments of the health of children in Woomera and Baxter, knowing full well that their reports would not be acted upon.”
(Zion, Briskman, & Loff, 2012, p. 72). In the school setting, staff may be hesitant to report child protection concerns that are unlikely to meet criteria for concern but are almost certain to bring the family increased scrutiny from an immigration system that is not known for transparency.

Further, those students living in community detention are often subject to curfews, denied work rights, and may face limitations in providers of health care (Asylum Seeker Resource Centre, 2013). On a practical level this means that students report that they require written permission from the Department of Immigration in order to attend school events that might finish after their 10 pm curfew – school camps, performances, and social events being obvious examples.

**Discussion**

Government policies, combined with a commitment to providing young people with a liberating and inclusive education have created the ideal conditions for enrolment of large numbers of refugee and asylum seeking students within a mainstream school, located in Brisbane Australia. In recent times Akinsulure-Smith and O’Hara (2012) have identified five domains that demand therapeutic consideration. These categories have been applied throughout this article to structure the thematic description of some of the challenges facing this cohort as a whole and the pastoral considerations within a mainstream school context. Specifically, these categories highlight concerns relating to student age (employment/education), independent living status (social services), previous trauma history (medical), expressive and receptive communication (language skills) and exposure to past illegal treatment and ongoing restrictions (legal). For the purpose of this article, the pragmatics detailing the specifics of how to respond to refugee and asylum seeking students have been forsaken in favour of articulating meaningful theoretical considerations for schools seeking to open their doors to new arrivals – thus supporting the position that sustainability should be inherent in “a vision and values central of the policy of the school” (Iliško & Badjanova, 2014, p. 46). However, the following considerations represent examples of key pragmatic considerations that demand attention when working with this population.

The enrolment of students from asylum seeker and refugee minority backgrounds in a mainstream school necessitates a range of staffing implications. From the outset schools are challenged to ensure equity of information is provided. Examples of adaptations include translation of prospectus/enrolment forms and automated translation services on websites. Leadership staff may ensure that all staff are alerted in advance of the arrival of a new student – including specifics such as country of origin, literacy in their first language, English proficiency, previous educational level, exposure to or time spent in refugee camps (Strauss & Smedley, 2009).

The availability of English as Second Language teachers is critical to the support of these students across all subject areas. In terms of academic content, these are students for whom the regular English curriculum will need be adapted through offerings such as English Communication and English as a Second Language. A more holistic response would focus not only on academic content, but also the processes that enable learning. Indeed, the role of the ESL teacher might be augmented to accommodate the recommendation that schools seek to support these students by employing staff member who has special responsibility for refugees (Strauss & Smedley, 2009). The demands on this
role would demand an awareness of the cultural and political sensitivities that accompany new arrivals seeking freedom from persecution. Key support staff may require access to guidance (professional supervision) and support (debriefing) such that their skill sets can be augmented. Further, the recommendations applied by Williams, Edwards, Kuhel and Lim (2016) pertaining to the teaching of STEM to culturally and linguistically diverse populations offer additional points of consideration, namely “Monthly seminars and professional conferences focused on cultural responsiveness, teaching for social justice.” (p. 27).

Careers and guidance counsellors will necessarily need to increase their exposure to the implications of different visas and associated work and study restrictions. Barriers to employment are many and include restrictions on seeking employment, the challenge of compiling a resume when evidence of identity or past training is minimal or non-existent and significantly increased tertiary fees. In the course of discussing possible post-school pathways, the counsellor is likely to become alert to any number of challenges that restrict the student’s capacity to attend and engage at school or seek employment. Examples being a lack of stable housing or scheduling meetings with legal representation during school hours. In such instances close and regular contact with external government and non-government organisations is likely to assist the counsellor to ensure the boundary around school based concerns is maintained, whilst the immediate needs of the student – likely to restrict education if unmet – are addressed. Respecting the limited financial means that originates out of unemployment or underemployment, lack of familiarity that accompanies a move to a new city, and distrust that can originate when first experiences of the Australia are as described earlier in piece, it is proposed that professionals from existing external culturally-specific services may be supported to attend on site.

In terms of Pastoral Care structures in the school that support these students, the College embraces a vertical Pastoral system organized into four Houses. Within these House groupings there are five Homerooms which contain approximately twenty-five students varying in ages from eleven to students in their early twenties. The intention of this structure is to encourage interactions in the Homeroom where older students care for the younger ones according the philosophy of the College outlined in the Touchstones listed above. This structure is also supportive of students from asylum seeker backgrounds as Australian students are charged with leading the Homeroom and caring for all the students therein. Additionally, the reactive behaviour management processes which are based around the principles of Restorative Justice also serve to honour the stories of these students in such a way that any consequences given from their behavioural choices are mitigated by their experiences.

Conclusions

Just as paediatrician and psychoanalyst Donald Winnicott’s description of the ‘good-enough mother’ makes space for the importance of ‘failure’, it is proposed that a school cannot and should not seek to be all things to these vulnerable students. The needs of this cohort are often many and varied – often sitting outside the usual expertise and practice of mainstream school staff. For example, a student might reveal a medical illness, yet have no previous interaction with accessing the medical system. Conversely, a student may phone in absent for school on the basis of needing to engage with the court system, yet have no knowledge of the possibility that they might be eligible for
representation. In such instances school staff are presented with the dilemma that whilst they may well represent one of a small sample of supports available to the student, their professional and personal resources are already allocated elsewhere.

Rather, the task for the school is to provide a corrective emotional experience – such that the student has developed their own resilience – ready to face a world in which access to further study or even work may be prohibited due to visa conditions. As such, the onus must be on the teaching of meta-level skills – such that the student is more skilled and experienced in problem solving future challenges for themselves. Though this article discusses content of a pastoral nature, it will frequently be the academic process that scaffolds the student’s daily experiences. These are students for whom an inclusive, cooperative approach will in itself represent news of a difference. Thus reflecting the position that sustainability requires schools to embrace a systemic conceptualisation of how all the initiatives fit together in a more holistic frame (Salote, 2015).

References


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Abstract

In the 21st century, numerous complex challenges in education and health care have come to the fore, among them: 1) how to implement the ecological approach in the education process and health care practice; 2) how to implement study programmes in line with the education trends for sustainable development and the process of formation and development of the ecological competence.

The results of this research refer only to the content analysis of the essays written by the first and second year students of the programs in Nursing and Medicine on completing the study course *The Ecological Approach in Patient Care*. To increase the credibility and validity of the obtained results of the content analysis, the triangulation method has been applied to include quantitative and qualitative data. The research has looked into the concept of ecology, its application and importance in developing the ecological consciousness of students during their transformation from I-Ego to I-Eco in the process of developing their ecological competence (Salite, 1998).

*Keywords*: sustainability/sustainable development in health care, education for sustainable development, ecological approach, ecology of human development, deep ecology and ecosophy.

Introduction

The ecological approach in education process and health care practice must be looked at as a varied and complex system of learning, socializing and culture that consists of many different subsystems. It is a way to implement sustainable development of education and sustainability/sustainable development in health care promoting unity and congruence of science and health care. The ecological approach in education and health care practice refer to the value-oriented transformation process of students from I-Ego to I-Eco in their life activities and systemic thinking in social, education and health care environment, complementing the professional code of ethics (Salite, 1998).

The ecological approach in the process of education and health care creates a multi-level interdisciplinary system. It is characterized by universal, interdisciplinary, integral, social and cultural context. By blending experience and creative activities, it develops an integrative combination of competences. The interconnectedness of this system allows
for defining the relationship and interaction between human, environment, and society. It develops professional conduct and awareness about the importance of knowledge in seeking solutions for ecological issues. The ecological approach in the education process of students and in health care practice relates to self-organization, creativity, and ability to deal with unexpected and complex ecological issues and situations in a multilevel environment.

The ecological approach in the process of education and health care should be viewed in the context of lifelong learning and further improvement of life activities. It is important to point out Mollenhauer’s (Klaus Mollenhauer, 1928–1998) opinion on the human ability to integrate into society, which demands the liberation of the subject, that is, in order to be able to make an independent and responsible decision and to be able to act freely and independently, the subject must be liberated from the conditions that limit and inhibit their activity in society (Mollenhauer, 1973).

Evaluation of many insights and research outcomes in a variety of publications has led to the definition of a hypothetical assumption that the formation and development of the ecological competence in education and health care can be promoted if formal, informal, and non-formal education is based on the ecological approach (Salote, Drelinga, Iliško, Zariña, & Oľehnoviča, 2016).

The ecological approach in education and health care practice is characterized by the principles developed as a result of theoretical research and the components of professional competence. From a systemic perspective, this forms the ecological competence in the social and educational environment and through experiences in health care.

The ecological approach in education and health care is built upon three basic building blocks:
1) *Education for sustainable development* and *sustainability/sustainable development* in health care practice;
2) Bronfenbrenner’s *ecology of human development* theory;
3) *Deep ecology* and *ecosophy* by Naess.

### Ecology of Human Development in the Education Process and Health Care

The ecology of human development based on the research and insights of Bronfenbrenner and other scholars makes a significant methodological foundation for the formation of the ecological principles of students.

Bronfenbrenner, the author of the theory of the ecology of human development, relates his philosophy to the scientific study of the progressive mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives. He believes that this process is affected by relations between these settings and by the larger contexts in which the settings are imbedded (Bronfenbrenner, 1979, Definition 1).

In the context of the present research, the growing person is a student in the process of education and health care. During this process, a student – the growing person – acquires a more extended, differentiated, and valid conception of the ecological environment and becomes motivated and able to engage in activities that, in form and content, sustain, or restructure that environment at levels of similar or greater complexity, or reveal the properties of that environment (Bronfenbrenner, 1979, Definition 7).
There are three main types of interaction identified between a developing, growing person and the ecological environment and setting:

1) a person keeps changing and accommodating to the environment that does not change;
2) a person changes the environment without changing himself or herself;
3) a mutual interaction, accommodation and development between a person and the environment.

The significant concept of environment receives a special emphasis in the summary of the main concepts and insights of systemology. Every system is characterized by its internal and external environment. Its structure is a display of its parts forming the system. The internal environment is a whole made of its components; the external environment, in its turn, is everything that the respective system does not comprise. Every system is an externally designed internal environment separated by the system’s border surface (Broks, 2000; Salõte, Drelinga, Iliško, Zariña, & Ojeñovića, 2016).

Transforming the definition and propositions put forward by Bronfenbrenner that there is a correlation in every place, a theoretical foundation for a dyadic correlation between the education process of students and health care practice can be established. When students cooperate and participate in the education process and health care practice, observation dyads and dyads of joint or shared activities are developed (Figure 1).

![Figure 1](image-url)  
*Figure 1. Dyadic relationships of students in the process of education and in the environment of health care practice*

In the education process and health care practice of students, dyadic relationships provide critical context for individual development. They also provide the basic construc-
tion of a microsystem improving on a broader range of skills in interpersonal structures, triads, tetrads etc. To promote the psychological development, a dyad acquires different functional forms in the education process and health care practice of students emphasizing the potential for interaction and development.

An observation dyad in the process of a favorable interaction shapes a mutually supportive emotional attitude among students during the process of education and health care practice. An observation dyad plays a significant role in the process of education and health care practice of students as the obtained knowledge and skills do not always correspond to the real life health care situations.

By paying attention to and being aware of the shown interest, students can develop an attitude, motivation and appropriate behaviour, for example, by actively participating in the study process, joining in discussions, expressing their opinion based on their knowledge and experience, and by being able to analyze and assess any problem situation critically (Bakutytė, Ušeckienė, & Iliško, 2016).

A dyad of joint or shared activities is characterized by the balance of power in the subject – subject relationship – not competing, but cooperating and participating. Dyads of joint or shared activities in the process of education and health care practice can be characterized by the application and use of the theoretical knowledge in health care practice. During their clinical practice, students acquire health care skills. Attitude, motivation and appropriate behaviour – all of these affect the dyad of joint or shared activities.

In Bronfenbrenner’s bio-ecological theory of human development, the concept of an endosystem is replaced by the concept of the growing or developing person mentioned in the definitions. The concept of a student in the process of education and health care practice is applied respectively. To demonstrate the development of a student that has occurred during the process of education and health care practice, it is necessary to establish that a change produced in the conceptions and/or activities of a student carries over to other settings and other times. Such demonstration is referred to as developmental validity (Bronfenbrenner, 1979, Definition 9).

From a systemic point of view, an endosystem is the core of a system. The growing/developing student in a social, educational and health care environment characterized by a physical, social, psychological and spiritual affiliation with this environment is like an open systemic whole in an ecological environment (Figure 2).
This approach corresponds to the requirements put forward by Bronfenbrenner and Moriss who insist on researching simultaneously both – an individual and the environment. It is also in line with Lerner’s view about the related systems and merging of systems (Bronfenbrenner, & Moriss, 2006; Lerner, 2006).

An endosystem, which the research points out as the core of a system, merges with a microsystem, which is the immediate environment a student gets involved in the process of education and health care practice. Bronfenbrenner’s emphasizes that when analyzing a microsystem, the full interpersonal system operating in the given setting must be taken into account as this system typically includes all the participants present (including the researcher) and their reciprocal relations (Bronfenbrenner, 1979, Proposition D).

Bronfenbrenner defines four general types of interrelations between two or more settings/environments in which the developing person/ a student becomes an active participant during the process of education and health care practice. He proposes the following interconnections:

1) multi-setting participation;
2) indirect linkage;
3) interesting communications;
4) interesting knowledge.

By taking part in different education and health care practice environments, a student in the process of education and health care practice will have positive developmental effects formed as a result of different interconnections, for example, through international cooperation and student exchange programmes. Different environments/ settings fit into cultural and subcultural contexts and will vary as to their ethnicity, social class, religion, age group or other background factors. Students will thus benefit from such developmental experience, but their capacity to profit will vary directly as a function of the number of transcontextual dyads, across a variety of settings, in which students in their process of education and health care practice have participated prior to that experience (Bronfenbrenner, 1979, Definition 4, Hypothesis 31).

A macrosystem should be understood as a system with a wider ecological context situated furthest away from the immediate experience of students in the process of education and health care practice. At this level, different social factors are involved in the socialization process of a person.

Deep Ecology and Ecosophy

The principles of the ecological approach analyze the concept of ecology and deep ecology and their importance in education and health care. The principles of the ecological approach are systemically founded and linked into the ideas of the eight-point platform of deep ecology and ecosophy. The characteristics of the principles of the ecological approach correspond to the criteria of the formation and development of the ecological consciousness in everyday life activities and in the process of education and health care.

Deep ecology and ecosophy makes the philosophical and theoretical foundation for the formation and development process of the ecological approach in education and health care. Compared to other prominent theories, deep ecology has not crystallized into a complete system. Deep ecological thinking and ecosophy is a process without end.
Arne Naess’ by an ecosophy mean a philosophy of ecological harmony or equilibrium. A philosophy as a kind of Sofia (or) wisdom, is openly normative, it contains norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs in our universe. Wisdom is policy wisdom, prescription, not only scientific description and prediction. The details of an ecosophy will show many variations due to significant differences concerning not only the ‘facts’ of pollution, resources, population, etc. but also value priorities (Drengson, Inoue, 1995; Salóte, 1998, 2008).

It is rather a set of prescient hints about the real connections and relations in society, culture and nature. These hints are to environmental philosophy as a tree trunk is to its roots and branches (Rothenberg, 1987).

Ecological wisdom (ecosophy) in education promotes sustainable development and, as an outcome of the learning process, provides ecological knowledge, ecological skills, as well as forms and develops the ecological consciousness in order to emphasize morality and spirituality, which are distinctive human characteristics. It is a knowledge that is deeper than ordinary knowing. Ecological Wisdom is a deeper knowing, a wisdom that can discern the interrelationship of the different components of life as the organisms to their environment which is the totality of all that humans do to maintain and support civilization and societies, including but not limited to the environment. Naess thought it very important that nowadays knowledge and intellectual abilities are highly appreciated as it is our intellectual capacity and abilities that, clearer than anything else, define our privileged and unique position we, humans, occupy among other living creatures on Earth (Naess, 1991; Naess, Haukeland, 2008).

The Principles of the Ecological Approach in Education and Health Care

The purpose of introducing the ecological approach in education is not to reform educational institutions, but rather transform them so that human relationships and relationships in humanity in general would be, subsequently, greatly harmonized. By combining and consolidating the best alternatives from different theories and practices with a holistic perspective, the ecological approach will develop the unique potential of each and every student. The ecological approach in education does not follow a particular ideology. It is an open-ended continuous attempt to apprehend the complexity and wholeness in a life of a human. Knowledge about the accurate and precise content of nature leads us to a conclusion that change is necessary in education and health care. The often-cited eight-point platform developed by Naess. Sessions could make a new beginning for the ethics of a new practice in health care (Næs & Haukeland, 2008). The principles of the ecological approach are in line with the characteristics of the quality education and quality health care in the view of the ecological approach.

The principles of the ecological approach in education and health care have been developed in line with the trends in education for sustainable development (Salite, 2008). They are systematically founded on the model of the process–person–context–time system and linked into the ideas of the eight-point platform of deep ecology and ecosophy. The characteristics of the principles of the ecological approach correspond to the criteria of the formation and development of the ecological consciousness in everyday life activities and in the process of education and health care.
1. **The principle of developing the ability to think and performance and experience growth**

   By making independent decisions, students raise their awareness of being developing/growing spiritual beings in an ecosystem; the knowledge acquired in the process of cognition and learning gives the sense of satisfaction, stimulates the ability to think, enhances reflection and critical thinking; the knowledge-based skills/abilities further enrich the experience and performance in everyday life activities and health care process.

2. **The principle of responsibility**

   Ongoing process of self-knowing, responsible and congruent, conduct and performance through functioning, and integrating into social, educational and health care multidimensional environment.

3. **The principle of transformation**

   Making a conscious choice about the existence or lack of I and We according to the given situation and reaching the highest possible potential in the development of I freedom.

4. **The principle of being aware of the cause- and- effect principle, safety advocacy, and promoting wellness**

   Being aware of the existence of a global environmental crisis as a result of human activities and practices as a threat to humanity’s wellness in the future generations; solving environmental issues, protecting and sustaining the environment in everyday life activities and health care in a democratic and constructive way, primarily advocating universal safety in different dimensions of wellness or significant fields of life, showing respect to religious and cultural diversity in multi-level communication environments, accepting pluralism, maintaining/sustaining wellness in dyads, triads and tetrads and etc.

5. **The principle of the unity and wholeness of the core values in education and health care**

   By active participation in the processes of developing society wellness and maintaining sustainability of the environment, students adjust/attune their feelings and the core values in education and health care process.

   This all relates to several aspects of the process-person-context-time system, for example, a process and a person or a living being in an ecological setting (Bronfenbrenner & Morris, 2006; Tudge, & Mokrova et. al., 2009). The defined principles of the ecological approach complement the code of ethics of students and integrate the criteria of the ecological consciousness into a global systemic view as a sustainability/sustainable development process of a spiritual harmonious being in an ecosystem.

### The Content Analysis of Students Essays during the Course of the Ecological Approach in Patient Care

The ecological approach of cooperating with others, may create an individual life-long learning plan to keep accumulating new knowledge, skills and communication strategies. This will add to the existing range of talents and thus promote informal education. In the study process during the course of the Ecological Approach in Patient Care, students accumulate new information, as well as recognize and consolidate their
previously obtained knowledge through active participation. The learning process during the course is in line with the views of Egon Guba and Yvonne Lincoln who thinks that constructivism also includes also hermeneutic and dialectic methodology. This approach reconstructs the experience of the respondents in relation to their perception of the social world (Guba, & Lincoln, 2005). Personality is viewed as a factor that can explain human behavior and predict their behavior in the acts of social interaction. When describing characteristics of a particular personality, we should put them in specific cultural, historical and attitudinal conditions (Burr, 1995).

The aim of the content analysis is to empirically test the principles of the ecological approach and the ecological competence model in education and health care.

General Guidelines and Organization of the Content Analysis

The AQUAD 7 (The Analysis of Qualitative Data) programme has been used for the content analysis of the essays written by the students of the study programmes of Nursing and Medicine on completing the course of The Ecological Approach in Patient Care. G. Huber and M. Cooney point to the wide possibilities this programme offers in describing the obtained data, finding linkages and implicating and creating a data-grounded theory (Cooney, 2010; Huber, & Gürtler, 2004).

Qualitative content analysis is traditionally considered a verifiable research method. It is both formal and systematic, and the variables are expressed in a structured way so that they can be counted by applying quantitative content analysis. This research method is applied in cases when it is necessary to count words to find out how often they appear or are used in the text answering the questions “How will the obtained numbers contribute to the research?” This approach gives a possibility to discover topics or themes after counting the frequency or how many times and what appeared in the text and, most often, it all comes from the surface data (Braun, & Clarke, 2006).

The content analysis applies a previously developed code system to identify specific units, objective and actual/factual data (Hodder, 2000).

The qualitative research method includes specific methodology and laws, which allows obtaining credible and valid results and the outcome is considered to be an independent, full and complete study (Denzin, & Lincoln, 2005).

John Schostak describes the credibility of the data analysis of qualitative research as a process – how accurately the researcher has performed different procedures to come to conclusions, whereas the validity of the study depends on the consequent approach of the researcher in combining different methods and techniques in the course of the research (Schostak, 2005).

In the process of analyzing qualitative research data, the researcher and participants construct the social reality attaching importance to it. Malcolm Williamson and John Hallberg describe such an approach as naturalistic or interpretative. It points to the fact that qualitative research will always have somewhat subjective characteristics and its results will only be attributed to the particular group of participants and specific external conditions (Hallberg, 2006; Williamson, 2006).

In the course of the research, AQUAD 7 program helps to structuralize information and create conceptual codes that are consistent with the theoretical framework for the process of the formation and development of the ecological consciousness and ecological competence of students.
The chosen categories that become codes and the chosen data sectors for coding that become segments make the essence of the content analysis of student essays. Huber is of the opinion that a single entry of the code in the file is already sufficient evidence. The sequence of the research strategy is not determined; it can easily overlap and be repeated several times as the qualitative research is characterized by non-linear nature. As Figure 3 shows, two strategies – differentiation and generalization are simultaneously applied for analyzing data (Huber, & Gürttler 2013).

Figure 3. Differentiation and generalization – context for the research strategy

The content analysis of qualitative research includes three steps:
1) data coding;
2) finding linkages;
3) comparison.

Parallel to the differentiation strategy, the whole text of student essays was coded, which helped to highlight the content load of the codes. The codes allowed describing the general conformity of the content of the study course of *The Ecological Approach to Patient Care* to the basic concepts. The most common and distinctive frequency codes helped to create metacodes in line with the requirements for the content of the student essays. They were asked to write about:
- gains for personal growth;
- gains for professional development;
- the relevance of the course in health care.

**Design of the content analysis**
- analysis of student essays in AQUAD 7 programme in line with the criteria for the development of the ecological consciousness and the theoretical building blocks of the research design for the development of the principles of the ecological approach and the ecological competence: education for sustainable development, sustainability/sustainable development, the ecology of human development, deep ecology and ecosophy.

**Characteristics of the research group**
- Developer and lecturer of the study course of *The Ecological Approach in Patient Care*;
- Leading researcher, Doctor of Pedagogy of the Faculty of Education, Psychology and Art of The University of Latvia;
- Students of Master’s programme in Pedagogy of the University of Latvia.

**Choice and characteristics of the research participants**
When analyzing the student essays written on completing the course of the Ecological Approach in Patient Care and choosing them for the research and content analysis, *Harvey Russell Bernard*’s approach was used focusing on those respondents who were informed and had obtained knowledge on the topics included in the study course (Bernard, 2006).
Questions for the Content Analysis

1) How does the course of *The Ecological Approach in Patient Care* form the ecological consciousness and develop the ecological competence in order to introduce/implement the ecological approach in social, educational and healthcare environment?

2) How does the course of *The Ecological Approach in Patient Care* demonstrate and ensure the consistency with the knowledge about the basic theoretical building blocks of the research design for the formation and development of the principles of the ecological approach and the ecological competence: sustainability/sustainable development, the ecology of human development, deep ecology and ecosophy?

Thematic Analysis of the Student Essays on Completing the Study Course of the Ecological Approach in Patient Care

One of the triangulation methods was used in the narrative analysis of the student essays on completing the course of *The Ecological Approach in Patient Care*. It was given special importance with an aim to identify and justify the formation and development process of the ecological consciousness and the ecological competence.

In the process of the content analysis student essays were analyzed in line with the theoretical justification to determine the categories and that were fully consistent with the previously developed codes. Conceptual relationship among codes relate to the aims and objectives of the study course programme and is in line with the theoretical justification of the criteria of the ecological consciousness and the components of the ecological competence.

Several scholars admit that the main aim of the data-grounded theory is to develop a new theory that would allow for creating a new model practically based and grounded on the data alone (Huber, & Gürtler, 2004; Hallberg, 2006; Walker, 2006; Cooney, 2010). The developed concepts in the grounded theory are based on specific determined relationship among phrases/ utterances that all together make a conceptual framework and the whole set best describes the researched phenomenon.

The grounded theory should be consistent with the obtained data and it has to provide an appropriate description of the researched phenomenon. The identified categories should be in line with and should describe the data. They should not agree with the previously adopted concepts. It is desirable to reflect on the data, check their consistency to the gathered information by performing alternative interpretations (Hallberg, 2006).

The First Cycle of the Content Analysis

Looking into the content of the student essays as a representation of utterances pronounced with an aim to read them, study them, identify and interpret them in line with the knowledge gained during the study course of *The Ecological Approach in Patient Care*.

The Second Cycle of the Content Analysis

A repeated analysis of essays leads to a pilot analysis of the essay content in line with the gained insights. The research group selected 30 student essays by applying analytical induction that includes several cycles of content analysis.
Content units in student essays:
- Personality development and systemic thinking;
- Living in harmony and development from I-Ego to I-Eco;
- Professional development;
- Professional empathy;
- Health care;
- Holism and holistic approach.

The chosen categories (codes) are consistent with the obtained knowledge in the study course of *The Ecological Approach in Patient Care* and show how relevant they are for personality development, professional growth, as well as in the process of the formation and development of the ecological consciousness and ecological competence.

By analyzing 30 first and second year student essays with AQUAD 7 programme, the aim of the research group was to find relevant statements and develop content units for appropriate categories (codes) that were identified in the process of analyzing the essay content. The participants of the research group should agree on their consistency and conformity (Figure 4).

Figure 4. Content analysis of student essays according to the code system (%) creating concepts or meta codes in respective categories

A holistic approach in 30 essays (55%) could be identified as a desire to see all the ongoing processes in a wider perspective and take part in them; attitude to nature is mentioned in 13 (24%) essays, daily attitude – 9 (16%) essays, attitude to life – 3 (5%) essays – these codes relate to the metacode of attitude and are traced in 55 (20%) essays; a human being as a value appears in 23 essays (72%); life as a value – 9 (28%) essays – these codes fall under the metacode of values and are traced in 32 (11%) essays; personality development – 50 (48%) essays, developing the – 35 (34%), living in harmony – 15 (14%), development from I-Ego to I-Eco – 4 (4%) essays – these codes relate to the metacode of personality development and are mentioned in 104 (37%) essays; professional development is mentioned in 47 (53%) essays, professional empathy – 19 (21%), work in a health care team – 16 (18%), professional identity is mentioned in 7 (8%) essays; self – awareness in the profession of a medical nurse and physician...
assistant is relatively low and appears in very few essays. However, there are essays that point to the importance of a professional identity. Codes that relate to the metacode of professional development can be identified in 32 essays (89%). The content analysis of the essays shows that the least emphasized and least appreciated categories in numbers and percentage suggest that the concept of value in personality and professional development is obviously just being formed and developed.

The Third Cycle of the Content Analysis

A repeated coding of the content of the student essays in the context of the AQUAD 7 programme with an aim to find out conceptual consistency to the basic theoretical building blocks of the research design for the formation and development of the principles of the ecological approach and the ecological competence, which are – education for sustainable development; the ecology of human development, deep ecology and ecosophy, in order to analyze how the ecological competence of students is being formed and developed.

According to Strauss and Corbin, it is the theory grounded in the subject and is characterized by the fact that it develops as a result of the interrelation of the data when a group of researchers gather, analyse, systematize and select data (Strauss, Corbin, 1998).

Selected content categories (codes) are conceptually linked to Bronfenbrenners ecology of human development, Naess’ deep ecology or ecosophy and UNESCO’s five pillars of education for sustainable development (Table 1, Figure 5).

Table 1
The Basic Theoretical Building Blocks for the Development of the Principles of the Ecological Approach and the Ecological Competence

<table>
<thead>
<tr>
<th>The basic theoretical building blocks of the research design</th>
<th>Content codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology of human development</td>
<td>Process</td>
</tr>
<tr>
<td></td>
<td>Person</td>
</tr>
<tr>
<td></td>
<td>Context</td>
</tr>
<tr>
<td></td>
<td>Time</td>
</tr>
<tr>
<td>Deep ecology and ecosophy</td>
<td>human being as a value</td>
</tr>
<tr>
<td></td>
<td>attitude to life</td>
</tr>
<tr>
<td></td>
<td>life quality</td>
</tr>
<tr>
<td></td>
<td>abundance and diversity</td>
</tr>
<tr>
<td>Education for sustainable development</td>
<td>learning to know</td>
</tr>
<tr>
<td></td>
<td>learning to do</td>
</tr>
<tr>
<td></td>
<td>learning to live together</td>
</tr>
<tr>
<td></td>
<td>learning to be</td>
</tr>
<tr>
<td></td>
<td>learning to transform oneself and society</td>
</tr>
</tbody>
</table>
The analysis of the collected data gives the following findings: professional development is mentioned in 50 (38%) essays, process – in 35 (26%) essays, context – 25 (19%), time – 16 (12%), personality development – 7 (5%) essays – these codes relate to the metacode of the ecology of human development (39%); wealth and diversity are mentioned in 30 (31%) essays, a human being as a value – 23 (23%), attitude to a human being – 19 (19%), life quality – 15 (15%) essays, life as a value – 9 (9%), attitude to life – 3 (3%) – these codes refer to the metacode of deep ecology and ecosophy and are mentioned in 99 (29%) essays; learning to know is traced in 47 (43%) essays, learning to do – 35 (32%), learning to live together – 16 (15%), learning to be – 7 (6%), learning to transform oneself and society – 4 (4%) essays – these codes relate to the metacode of education for sustainable education and are mentioned in 109 (32%) essays.

Table 2
Examples of Content Units from Student Essays According to the Categories (codes)

<table>
<thead>
<tr>
<th>Examples of content units from student essays</th>
<th>Categories (codes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(...) ecology includes education, medicine and human relationship.</td>
<td>Personality development</td>
</tr>
<tr>
<td>(...) education and knowledge help people judge more objectively.</td>
<td></td>
</tr>
<tr>
<td>(...) we are powerless without knowledge.</td>
<td></td>
</tr>
<tr>
<td>(...) lectures have been encouraging us to THINK.</td>
<td>Cultivation of thinking</td>
</tr>
<tr>
<td>(...) thoughts and emotions have deep impact on the physical world and human health.</td>
<td></td>
</tr>
<tr>
<td>(...) we have all come into this world with a specific purpose and mission; we must think about ourselves and also consider everybody else who dwells in this house.</td>
<td>Living in harmony</td>
</tr>
</tbody>
</table>

Sequel to Table 1 see on the next page.
Ecology Approach in Education and Health Care

Sequel to Table 1.

| (...) we are not indifferent to the dwellers of our house and we are ready to help and protect others should the need arise. | Transformation from I-ego to I-eco |
| (...) we must learn to live not only for ourselves; we must think about others around us; we must be tolerant and show empathy to other people because we complement each other. | Professional development |
| (...) people should think and reflect on how we treat each other, how we treat nature and the environment we live in. | Professional empathy |
| (...) I would like to apply the ecological principles and their main idea in practice. | Work in a health care team |
| (...) health, environment and health care are closely interrelated. | Professional identity |
| (...) from now on, practice makes it perfect. | Holistic approach |
| (...) medical nurses should be fully committed without any make believe, without any negative thinking putting their heart and soul into helping patients as much as possible in line with their knowledge and competence and considering the patient’s attitude towards themselves. | Attitude towards nature |
| (...) we don’t have to love all patients but we must take care of them. | Every day attitude |
| (...) we must work in a team because one person cannot provide whole-some health care. | Work in a health care team |
| (...) a health care team should provide holistic care. | Professional identity |
| (...) team work brings the sense of satisfaction for a job well-done. | Holistic approach |
| (...) the ecological approach creates the sense of belonging to the profession. | Professional empathy |
| (...) it is about time for us, young medical nurses, start a change; we have all that is necessary to practically implement the ecological approach in patient care. | Work in a health care team |
| (...) the profession of a medical nurse should be a calling and the sense of mission. | Holistic approach |
| (...) When I reflect on what has been covered in the course I have a desire to change the world. | Attitude towards nature |
| (...) we can make the world brighter, safer, healthier and more colourful. Let’s do it together! Let’s do it with passion! | Every day attitude |
| (...) this is an art of treating the world as your home. | Holistic approach |
| (...) there is always a compromise – we can – not only destroy and take, but also give and restore. | Attitude towards nature |
| (...) human beings with their ever increasing needs and demands are not more important than other members of the surrounding environment. | Every day attitude |
| (...) we should take care of others in the same way as we take care of ourselves – not only by helping but also by supporting, encouraging, praising, comforting and respecting others as our equals. | Holistic approach |
| (...) with the ecological approach, I can show respect to others and respect myself. | Attitude to life |
| (...) every living creature is a unique and irreplaceable value. | A human being as a value |
| (...) it helps us realize that every living creature is unique, special and valuable. | Attitude to life |
| (...) the range of values of a person enhances our understanding of the importance of environment and the role of humans in it. | A human being as a value |
| (...) beingness is important; it is not just automatic and mechanic. | Life as a value |
| (...) the life of a person is the greatest treasure of medical professionals. | Life as a value |
| (...) every living creature is like a cogwheel in clockwork. | Life as a value |
Conclusions

Analyzing the content of student essays, the respective chosen categories (codes) characterize the concepts (metacodes) that are consistent with the basic theoretical building blocks of the research: the ecology of human development 133 (39%), education for sustainable development 109 (32%), deep ecology or ecosophy 99 (29%).

The categories or codes identified by the research group characterize the theoretical components of the formation and development process of the ecological consciousness and ecological competence.

Examples from the student essays analyzed in the research are consistent with the categories and content codes that attest to the knowledge obtained in the study process with an aim of forming and developing the ecological consciousness and ecological competence in social, educational and health care environment.

The content analysis of student essays is in the theory grounded qualitative research that, in line with the concepts (metacodes), describes the process of the formation and development of the ecological consciousness and ecological competence, which is grounded in knowledge and integrates the principles of the ecological approach in education and health care.

The content analysis of the essays clearly demonstrates that the concept of value in personality and professional development is obviously just being formed and developed. These categories are least emphasized and least appreciated in numbers and percentage.

Discussion

Education and health care nowadays are related to global processes. By developing theories, research and evidence-based health care, it keeps developing and creating new knowledge and discoveries and contributing to progress. The concepts process – person – context – time applied in the bio-ecological theory are equivalent to the most important concepts of nursing theories, such as person, setting, interrelation, adaptation etc.

Dyads, triads, tetrads etc. in the process of education and health care create and develop mutual trust, cooperation and emotional support. They maintain the balance of power in subject-subject relationships promoting the implementation of the pillars of education for sustainable development (ESD) learning to be, learning to live together and learning to transform oneself and society in education and health care.

The essence of the principles of the ecological approach in education and health care is to expand the duty ethics that dominates the professional code of ethics of health care professionals. This highlights the importance of a value-oriented lifestyle and systemic thinking. That makes essential conditions for the formation and development of ecocentric ecological consciousness and ecological wisdom in social, educational and health care environments.

The study course: The Ecological Approach to Patient Care is in line with the basic theoretical building blocks of the research; the identified categories or codes characterize the theoretical components of the process of the formation and development of the ecological consciousness and ecological competence of students. The examples from the student essays correspond to the categories and the content codes that attest to the knowledge acquired during the course with an aim to form and develop the ecological consciousness and ecological competence in social, educational and health care environ-
ment. According to the characteristics of A. Strauss and G. Corbin, the content analysis of students’ essays is theory grounded in the subject (Strauss, & Corbin, 1998).

Sustainability/sustainable development in education and health care should be understood in the context of globalization and global processes, which are described as both a process and a condition in the system, the power, the era, which is the foundation of the changing shape of human interaction. Manfred Steger called that globalisation is a dynamic process, which is best described by the concept of development, or formation according to a particular model (Steger, 2009).

The explanation of the concept of sustainability/sustainable development focuses on such concepts as change of attitude, environmental consciousness, behaviour, responsibility, and values, which is the principle of ecological approach in education and health care practice. In order to understand the complex sustainability/sustainable development environmental change of the system, we need to evaluate the improvement process in education and health care practice.

References


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Motivation of Civic Education Teachers-in-Training in the Field of Education for Sustainable Development

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Abstract

The objective of teacher-training at university for political science is the development of professional competencies that enable teachers-in-training to act proficiently in all aspects of civic education. Although there are some studies that focus on civic education for teachers’ professional competencies, most of them relate to general capability and do not concern certain significant topics. Empirical results related to the definitive topics within civic education are scarce, particularly in the field of sustainable development. Questions arise regarding teacher-training where it relates to high self-efficacy and interest within the field of civic education compared to other subjects, based on the model of political competence by Detjen and colleagues. In this article, we present the results of a quasi-experimental trial with civic education teachers-in-training (N = 108). Results indicate that their self-efficacy in the field of sustainable development is low compared to other areas, although there is no significant difference in their level of interest in sustainable development compared to other topics.

Keywords: civic education, civic education for sustainable development, teachers’ professional competencies, teachers’ motivation and interests, teachers’ self-efficacy, competency model.

Motivation as Part of Teachers’ Professional Teaching Competencies

Based on the model of professional competency that enables teachers to act in a professional manner (Baumert, & Kunter, 2006), motivation is considered an essential component of teachers’ professionalism besides other constructs like professional knowledge, self-regulatory skills and beliefs. The model indicates that self-efficacy and interest are important parts of a teacher’s professionalism. Teacher self-efficacy is the teacher’s confidence in his or her ability to support students’ learning and growth despite other challenges (Schwarzer, & Jerusalem, 2002). Teacher interest describes a relatively stable, content-specific construct associated with a better reference value and an epistemic orientation (Schiefele, 1974). In both national and international studies, self-efficacy and interest in teaching are found to influence teacher competency. Teachers with high levels of self-efficacy are more content with their job and demonstrate a more proactive attitude. This suggests that high self-efficacy also operates like a cushion against work-
related stress (Gebauer, 2013; Caprara et al., 2006). Additionally, teachers with a strong interest in their subject show more professional resilience and motivation to further develop their abilities (Eren, 2012; Retelsdorf et al., 2010). As mediated by teachers, self-efficacy and interest also have an effect on students. Students taught by teachers with positive self-efficacy and high interest in teaching, display a higher interest in the subject, perform better in different subjects, and also have higher self-efficacy beliefs (Baumert, & Kunter, 2006; Long, & Woolfolk Hoy, 2006; Baumert et al., 2011).

**Motivation of Civic Education Teachers**

In the context of civic education, Weifleno and colleagues adjusted the model of Baumert and Kunter (2006) to reflect values tied specifically to civic education. Their assessment found that there are differences between teachers-in-training and teachers who had been in the field for a few years. Teachers-in-training display lower interest in the instruction of civic education than their more experienced colleagues. Furthermore, male civic education teachers’ interest in teaching this subject is higher than the interest of female civic education teachers (Oberle et al., 2013). Näther and Merkens found that only 7 percent of German primary school teachers surveyed, indicate interest in further professional training in civics (Näther, & Merkens, 2012), though it should be noted that Näther and Merkens only considered the epistemological dimension. Additionally, Manzel found that the self-efficacy of civic education students influences their career choice (Manzel, 2013). Results of the study by Oberle, Weschenfelder and Weifleno demonstrate that the self-efficacy of civic education teachers-in-training is mainly positive (Oberle et al., 2013).

**Defining Sustainable Development**

To put the study at hand into an appropriate didactical framework, an important model of key concepts and subject concepts of politics (Weifleno, Detjen, Juchler, Massing, & Richter, 2010) used within German Civic Education should be considered. This model reflects additional developments within German Civic Education didactics since 2004 (Weifleno, Detjen, Juchler, Massing, & Richter, 2010), and aligns with the focus on professional competencies (Weinert, 2001). A content-related proficiency within civic education is of critical importance for content standards, which offer a primer for students summarising the expectations for their participation in the course. With this framework in mind, the researchers (Weifleno et al., 2010) created this common and theoretical model, with a focus on politics as a core theme within the larger subject of social studies. The introduced focus is reached by key and subject concepts. Key concepts mean core principles within the domain of a certain subject, and within the domain of politics three key concepts and several concrete subject concepts can be distinguished. These subject concepts serve to put the key concepts into concrete terms. The following figure serves to illustrate the given model (Figure 1).

This introduced structure was adopted from natural science and aims to systematise competencies in order to help teachers clarify and plan lesson units. (Weifleno, Detjen, Juchler, Massing, & Richter, 2010).
Sustainability is one concrete concept within the general key concept of common good, in addition to freedom, peace, justice, equality, human dignity, security and public goods. The term ‘sustainability’ contains a cosmopolitan view of the key concept, common good. To discuss the term sustainability and sustainable development would go beyond the scope of this paper. However, one crucial distinction must be drawn between sustainability as a state or end of a process and sustainable development as the process of social change (Grunwald, & Kopfmüller, 2012, p. 11). In this context, the authors suggest referring to the well-known definition from the Brundtland report concerning sustainable development:

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.” (United Nations, 1987)

One can further state that “Sustainable development [...] is an inclusive concept that applies to all countries of the world; [...]. It is central to all efforts towards the human shaping of the world through globalization” (Brunold, 2015).

Certain misconceptions exist when talking about sustainability. The concept of sustainability can often be found in combination with or even to say restriction to environmental issues (Rieß, 2010). Aspects of economic, social or political issues remain unconsidered in this context. Even more, crucial values and patterns are not featured within this analysis, which must consider local, national, international and global perspectives (Ohlmeier, & Brunold, 2015).
The holistic approach takes three dimensions into account, includes good governance, and can only be successful by implementing a stronger role of education (Brunold, 2015). As future consumers and participating citizens, students must be empowered to reach this aim (Ohlmeier, 2013). In this respect, teachers are important change agents and must help develop students’ knowledge and ability to cope with these important tasks. The study at hand serves to investigate future teachers’ likelihood to fulfill their role as successful drivers for sustainable development education.

**Research Questions and Survey Design**

In summary, the findings show that motivation plays an important role in teacher proficiency. There are already perceptions on motivation of civic education teachers. Generally, these perceptions cover a wide range of topics. Specific information about teachers’ motivation in teaching topics concerning sustainable development is rare. There are studies in which the researchers assessed the interest and self-efficacy of teachers-in-training (Filho, 2012), the study of Redman for example mentioned the general lack of deep knowledge regarding sustainability (Redman, 2013) and the study presented by Kukk and Talts (Kukk, & Talts, 2007) refers in general to teachers’ self-assessment of professional skills. But these studies do not reflect the political perspective of sustainable development.

Therefore, the following research questions arise:

1. How do self-efficacy beliefs of teachers-in-training in the context of sustainable development differ from their self-efficacy beliefs in other topics?
2. How does the inherent interest in the field of sustainable development differ from their self-efficacy beliefs in other topics?

108 civic education teachers-in-training at the University of Augsburg participated in the survey. The teachers-in-training were studying to become primary teachers (N = 39), teachers at Mittelschule (N = 57) or at grammar school (N = 12) and were attending 10 different courses at the University of Augsburg. Their average age was 25 (M = 24.54; SD = 3.83). 76 of the interviewees were female, 32 were male.

While the teachers-in-training who are studying to become teachers at a grammar school chose civic education as one general subject (107 ECTS-points), the University of Augsburg offers multiple opportunities for primary teachers to pursue civic education topics in their academic course load. In the context of a subject-related degree program, it is possible to choose civic education as a main subject (69 ECTS-points) or as a subject of didactics (11 ECTS-points). Most of the primary teachers wanting to be placed at Mittelschule (62.22%) encounter civic education during their studies as a subject of didactics.

The data were collected by a questionnaire, and answers were scaled to help respondents subjectively rate their own self-efficacy beliefs related to sustainable development according to the questionnaire for teacher self-efficacy by Schwarzer & Schmitz (1999). In order to compare sustainability with other subject concepts, the teachers were asked to assess their beliefs according to the key concept common goods, which is part of the model of key and subject concepts of politics (Weißen et al., 2010, p. 12). The scales for self-efficacy beliefs in the particular subjects’ concepts with an internal consistency from $r = .66$ to $r = .83$ are satisfactory results.
The second question of the study concerns the assessment of teachers’ interest in sustainability compared to other subject concepts. For this analysis, we focused on the interest in teaching. Basis for these scales were the questionnaires of Franz (2008), Kleickmann (2008) and Krapp et al. (1993). The Cornbachs Alpha from $r = .65$ to $r = .82$ is satisfactory. The answer format of the scales for both constructs has four stages (0 = strongly agree to 3 = strongly disagree). To compare the self-efficacy beliefs and interests of the teachers-in-training, we calculated one sample-t-Test with the program SPSS 23, which facilitates statistical analysis.

**Research Findings**

Regarding the means you can see that there is only one subject concept that civic education teacher-in-training feel less self-efficient in than sustainability (see Figure 1). If you count all of the other subject concepts combined and compare this with the subject concept of sustainability, the evaluation of the questionnaires shows, that, on average, the self-efficacy beliefs of the surveyed teachers-in-training related to sustainability ($M = .66$, $SD = .18$) is lower than their average self-efficacy beliefs in all other subject concepts of common goods ($M = .75$, $SD = .13$). This difference, .09, is significant $t(107) = p < .05$, and represents a medium-sized effect, $d = .65$ (see Table 1).

Although the resultant interest of teachers-in-training in teaching sustainability ($M = .75$, $SD = .17$) is lower than their average interest in all other key concepts of common goods ($M = .81$), this difference, .01. BCa is not significant $t(107) = p < .05$.

![Figure 2](image_url)

*Figure 2. Civic education students’ self-efficacy concerning the subject concepts of the key concept common good*

Note: other subjects = mean of equality, freedom, human rights, peace, public goods, justice and security
Discussion

The presented results are part of a study that is subject to methodological restrictions (convenience sampling, low number of cases). Despite the given limitations, the data provide insights as it relates to teachers’ interest and self-efficacy beliefs concerning the subject concept sustainability. In the context of this study, we found that the surveyed teachers-in-training at the University of Augsburg believe they can teach most of the other subject concepts of the key concept *common goods* better than the key concept sustainability. This difference is significant, and leads us to ask why their self-efficacy in this subject concept is comparatively low. One possibility is that teachers-in-training spend insufficient time on topics concerning sustainable development during their academic studies. It is therefore conceivable that teachers’ level of self-efficacy rises when they spend more time with topics concerning sustainable development. As the range of concrete topics covering sustainable development is very big, a discussion of appropriate concrete topics would go beyond the scope of this paper. Reichhart showed in her study with primary teachers-in-training that it is possible to change their self-efficacy to teach political issues at primary school by attending a university class. The interviewed teachers-in-training at the University of Augsburg participated in a course with twelve sessions (3 ECTS-Points) and showed even six month after they finished the course significant higher self-efficacy to teach political issues than they did at the beginning of the course. The concept of the course was based on findings of reflexive and explorative learning (Reichhart, 2017). Further research would be needed to find out if self-efficacy of teachers-in-training can also be changed if the narrower concept of sustainable development is concerned, which is part of the model of political competence (Weißeno, 2010).
Although the teachers-in-trainings’ interest in teaching sustainable development related topics is not very high compared to other subject concepts like justice or human rights, the comparison with all other subject concepts is not significant. This shows that the interviewed teachers-in-training are on the one hand interested in teaching sustainable development but on the other hand – this shows their significant low self-efficacy – don’t feel confident teaching sustainable development. Because both competencies – teachers’ interest and teacher’s self-efficacy - are important parts of teachers’ professional competency and affect students’ learning (Baumert, & Kunter, 2006) the results of this study suggest that it is more urgent to concentrate on the development of teacher-in-trainings’ self-efficacy concerning sustainability than on their interest in sustainability. If these results can be replicated with a larger sample and additional measurements of teacher proficiency, they could indicate a need to adapt teacher education. Furthermore, it would be interesting to evaluate which components best represent sustainable development according to Civic Education teachers.

References


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Media and Environmental Non-Governmental Organizations (ENGOs) Roles in Environmental Sustainability Communication in Malaysia

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Abstract
Considering the massive environmental problems occurring in Malaysia, the media and the ENGOs are said to play pivotal roles in delivering environmental information to the mass society in order to increase their awareness, knowledge and practices towards the environment and sustainability. This study sought to shed the light on the type of roles can be played by the Malaysian media and the ENGOs in environmental sustainability communication. For the purpose of this study, 24 interviewees encompassing 13 media interviewees from two media organizations, namely Utusan Malaysia and The Star, as well as 11 ENGOs interviewees from two ENGOs organizations, WWF and MNS. The result of this study indicated that although both media and ENGOs seem to have different organizational backgrounds, particularly the media is a profitable organization whilst ENGOs are more non-profit oriented, when it comes to environmental communication, most of them agreed that they share quite similar roles particularly in informing and educating the public about environmental issues and in conducting research on environment and sustainability matters.

Keywords: Malaysia, environmental sustainability communication, media, ENGOs’ role.

Introduction
Nowadays, there are substantial amount of environmental problems such as landslide, haze, floods and others that continuously happened especially in developing countries such as Malaysia. For instance, water pollution has been said as one of the most serious environmental problem in Malaysia due to urbanization, human activities and natural causes (Afroz et al., 2014). Therefore, it is vital for social actors such as the media and the environmental non-governmental organizations (ENGOs) to take part in environmental sustainability communication, particularly in communicating environmental messages to the mass public. Environmental communication, it is hoped to increase the public awareness about environmental issues and to influence more environmental friendly and savvy attitudes (Willoughby & Smith, 2016). Most importantly, communicating environmental information such as potential hazards or the environmental incident can minimize the risk of other environmental disasters (Sobnosky, 2001).
Needless to say, although the environmental communication’s development in the West has started in very early in the 1960s, especially through Rachel Carson’s phenomenal book called ‘Silent Spring’ and Michael Harrington’s spectacular book named ‘The Other America’ that fruitfully raised public awareness and debate on environment (Dreier, 2012) yet the environmental communication is quite a new field in Malaysia (Adnan & Kamaliah, 2001). This might be due to the fact that environmental topics are less favorable by the nation compared to other topics such as politics and economy. Looking at the Malaysian media organization for example, until these days, there are no local media that has its own dedicated environmental desk that specifically focused on environmental news reporting (Nik Norma, 2007). Sadly, environmental news is usually placed together with other types of news, specifically under science and technology news desk. This is in contrast with Malaysian ENGOs such as the World Wide Fund for Nature (WWF) Malaysia, Sahabat Alam Malaysia (SAM), Malaysian Nature Society (MNS) and others that have given more attention on environmental issues compared to the media due to the fact that their organizations fully championed environment as the main issues of the organization while the media that need to focus on the variety of issues besides the environment.

Additionally, at this moment, there are very limited past Malaysian studies that covered on the topic of environmental sustainability communication particularly on the debate between the roles of media and ENGOs in environmental sustainability communication. It is even safe to say that there are no past studies that have compared the roles of both social actors in environmental sustainability communication within the Malaysian sphere. One of the related recent study that can be found on this topic is from Nur Nasliza & Jamilah (2013) that studied how the mass media provides a great medium for the ENGOs in disseminating environmental and sustainability information and their communication relationship to each other. This study, therefore, sought to fill this essential gap by providing the current update regarding the roles of Malaysian media and ENGOs in environmental sustainability communication. There are two main questions that need to be answered in this study, first, what kind of roles played by the Malaysian media and ENGOs in environmental communication? And, second, does the Malaysian media and ENGOs that have different background of organizations (media for profit and ENGOs as non-profit) have different or similar roles in environmental sustainability communication? Next, the explanation of environmental communication will be provided.

What is Environmental Communication?

As one might expect, environmental communication is a term that combined the words ‘environment’ or ‘environmental’ and ‘communication’. Based on its definition, environment can be generally understood as the elements surrounding the human life, including soil, flora, fauna, air and so on. According to Morelli (2011), the word ‘environmental’ is often linked with the act of human beings towards the environment. In contrast, the word communication is defined as the process of exchanging and transmitting the information between one to another (Lunenbrug, 2010). Together, it is reasonable to define the environmental communication as the process of delivering information about environmental problems, for example, from the media to the public (Hansen, 2011).
To be more specific, Cox (2013a) defined environmental communication as a form of symbolic action encompassing two types of functions, namely pragmatic and constitution function. The pragmatic function of environmental communication means that it can help to educate and persuade the recipients of environmental information to solve the environmental problems while the constitution function of environmental communication is more to constitute the power of environmental communication and represent the environmental problems for the recipients’ understanding and awareness. Interestingly, both functions of environmental communication explained by Cox emphasized the power of language and picture in communicating environmental matters to the public. Cox (2006b) provided a great example of how ENGOs such as The Sierra Club used the headlines like “Now only you can save the Grand Canyon from being flooded... for profit” along with certain controversial pictures in their environmental campaigns to influence policy makers and the public about the impact of dam development. Next, the link between the sustainability and environmental communication will be explained.

Sustainability and Environmental Communication

Within the debate in the broad spectrum of environmental communication, many of us are still having trouble distinguishing between environmental and sustainability communication concept. Obviously, there are two different concepts, that are related to each other. Unlike the environmental communication that only focused on communicating the environmental issues, sustainability communication is associated with the concept of communicating sustainability messages (Newig et al., 2013; Salite, 2015; Salite, Drelinga, Iliško, Žariša, & Oľehnoviča, 2016), including issues on the environment, social justice and economy to the society (Villarino, & Font, 2015; Mohamad Saifudin, & Nik Norma, 2017; Iliško, 2007). This is similar to the confusion between the concept of environmental and sustainability education. Unlike environmental education that only focused on environmental education, sustainability education or also known as ‘education for generation’ (Aydin, 2016, p.101) taught on sustainability issues including the environment so that the students for example, are not only having a knowledge on sustainability, but more importantly having a sustainable lifestyle (Bell, 2016; Salite, Drelinga, Iliško, Žariša, & Oľehnoviča, 2016).

As a whole, it is still intriguing to note that although these two types of communication have different issues to focus on, yet they actually have an almost similar goal which is to enhance society’s awareness on issues on the environment. Most importantly, it is still interesting to note that some issues such as climate change and global warming are hard to distinguish whether it is the environment and sustainability issues, as sustainability itself also contained environmental element. Thus, the term environmental sustainability will be used for this study. Next, the description of the methodology of this study will be explained.

Methodology

For the purpose of this study, in-depth interviews were conducted with 24 interviewees from two selected mainstream media organizations and two ENGOs organizations in Malaysia. Out of the 24 interviewees, 13 of them were journalists and editors from Utusan Malaysia and The Star while 11 of them were ENGOs staffs from WWF
and MNS. The reason for choosing the media interviewees from *Utusan Malaysia* and *The Star* due to the fact that these two newspapers have high daily publication circulation, where *The Star* has a circulation of 288,916 copies; *Utusan Malaysia* has a circulation of 178,211 copies per day (July to December, 2012) (Audit Bureau of Circulation Malaysia, 2012). Furthermore, both of these newspaper media organizations present the national language of Malaysia, Malay (*Utusan Malaysia*) and the second language of Malaysia, English (*The Star*). Similarly, the ENGOs interviewees were selected from WWF and MNS are due to the fact that both ENGOs organizations have been recognized as two most active ENGOs organizations in Malaysia in three main areas namely as research, education and conservation efforts beside of SAM (Rusli, & Sheikh, 2005).

By using purposive sampling, only the media and ENGOs interviewees that have the experience in dealing with environmental communication such in writing environmental articles were selected for this study. The criteria for the interviewees was refined after the pilot interview which was conducted with two media and two ENGOs interviewees where it was found that is necessary to only interview the media and ENGOs interviewees that have had at least a year of working experience as they are more informative regarding environmental topics compared to the new staff. It is worth noting that besides purposive sampling, snowballing sampling method was also adopted where some of interviewees in this study were also recommended by their colleagues.

For the interview data analysis, qualitative data management software namely the Maxqda software was used in this study to analyze all the transcripts. All of the interview data were them analyzed and organized using Braun & Clarke’s (2006) thematic analysis to find a theme and sub-theme related to the roles of Malaysian media and ENGOs in environmental sustainability communication. Next, the findings of this study will be presented.

**Research Findings**

Firstly, the findings regarding the demographic profile of the interviewees of this study were explained. As shown in Table 1 below, 24 interviewees from four different organizations, encompassing two media organizations and two ENGOs organization participated in this study. All the interviewees were labeled using identification codes such EJ1, EN1 and so on for anonymity. Out of 24 interviewees, six of them were from *The Star*, seven from *Utusan Malaysia*, six from WWF and another five from MNS. It is safe to conclude that there are an equivalent number of interviewees who used English or Malay language during the interview. The interviewees’ language preference was made by them in accordance with the language that they are comfortable with.

Additionally, it is worth to highlight that a majority of interviewees in this study are female (17 out of 24 interviewees) and at that time, a majority of them only have 1–5 years of working experiences (14 out of 24 interviewees). This could due the fact there are smaller numbers of media journalists and ENGOs managers that have acquired more work experiences, compared to the journalists and ENGOs officers. Interestingly, 21 from 24 interviewees of this study have acquired at least a bachelor degree and only one from *Utusan Malaysia* does not have a university degree. As expected, most of media interviewees graduated with degrees in communication and journalism background, while those from ENGOs came from various of backgrounds including science, environment, sustainability and other fields such as business and education. Next, the result of interview regarding the roles of Malaysian media and ENGOs in environmental sustainability communication will be displayed.
Table 1
Profile of Interviewees

<table>
<thead>
<tr>
<th></th>
<th>The Star (N)</th>
<th>Utusan Malaysia (N)</th>
<th>WWF (N)</th>
<th>MNS (N)</th>
</tr>
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<tbody>
<tr>
<td><strong>Number of interviewees</strong></td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>5</td>
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<tr>
<td><strong>Identification codes</strong></td>
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<td>(EJ7-EJ13)</td>
<td>(EN1-EN6)</td>
<td>(EN7-EN11)</td>
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<td>–</td>
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<td>6</td>
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<td>3</td>
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<td>11–15 years</td>
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<td>16 years and above</td>
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</table>

Roles of Malaysian Media and ENGOs in Environmental Sustainability Communication

In brief, the result of the interview indicated there are four major roles of Malaysian media and ENGOs in environmental sustainability communication, these roles are, (a) Reporting the environmental matters to the public (only for the media), (b) Conducting a research, (c) Informing, and (d) Educating about environment (for both media and ENGOs), as described below.

Reporting Environmental Matters

In general, the main role of the media particularly the journalist is to report environmental matters that happened in the country. Based on the interview, more than half of interviewees from the media (9 out of 13 interviewees) suggested that media plays a significant role in highlighting and reporting environmental issues like pollution, deforestation and destructions of hills (ID EJ1). Most importantly, through the media’s environmental reporting, the mainstream public will be able to access the government’s official environmental information (ID EJ2). Furthermore, through environmental reporting, the media actually serves immense roles in documenting certain pivotal environmental issues for future references as emphasized by one of the interviewees:
I think I see the role of media is coordinating and crafting, and documenting pieces of history. It is not just about entertainment but it is about like about educating and documenting. There is another thing that other than education and awareness, is documenting stuffs. For example like with the monkey Malaria, maybe not everyone read it, but it is really interesting thing that happened in Malaysia which someone or news source should document (ID EJ6).

Research Findings

Majority of media and ENGOs interviewees expressed that conducting research on environmental issues is pivotal and is part of their essential duties in environmental sustainability communication. For the media, undertaking research is considered as one of their communal responsibilities (ID EJ2, EJ4, EJ5, EJ9, EJ10, EJ11), particularly in digging out and obtaining environmental information (ID EJ2). For investigators, there are countless numbers of ways to obtain environmental information as clarified by one of interviewees from The Star:

So, I guess that is kind of like first hand researching and we all have to do, of course, researching through Internet, through books, meeting and interviewing experts (ID EJ3).

For the ENGOs who work under the label of scientific-based organization, conducting research and data collection are some of their top priorities (ID EN1, EN2, EN4, EN5). Most of their research is in line with their championed issues (ID EN1, EN2, EN8), like issues on wildlife conservation as focused by WWF and preserving Malaysia’s natural heritage, which is the focus of MNS. Nevertheless, by conducting researches, both ENGOs realized their prominent roles as stakeholders in undertaking conservation work. One of interviewees from WWF confirmed:

So, I think we are one important stakeholders conservation, Malaysia. We work towards providing solutions to the most pressing environmental issues and our priority is always our conservation projects (ID EN4).

Interestingly, as scientific-based organizations, both ENGOs have their own specific research teams that usually consist of research scientists (ID EN2), field and marine biologists (ID EN2) and conservation teams (ID EN7) who work and focus on conducting research on environment in the field. On the other hand, it is worth to note that one of the vital elements in delivering environmental information to the audience is the accuracy of the facts. In this regard, it is crucial for the ENGOs and the media to ensure every part of the environmental information is accurate to avoid the risk of misinformation. Thus, the ENGOs and media need to go down to the field and verify the obtained information with its (news) sources or through their own observation, before they can inform the public. One of the ENGOs clearly confirmed that:

I think they will look through into issues like, it sometimes it might not be something that is, we will find out whether it is true or not. The fact must be true. We cannot simply, they write something that is not true (ID EN8).
Informing Environmental Messages

In brief, 8 out of the 11 of ENGOs interviewees and 5 out of 13 media interviewees mentioned the importance of informing the public about the environmental messages. Most of media interviewees described the importance of news article as the main medium to update environmental matters or events that occur locally or internationally.

To inform them on where these issues are happening and how it affects them (ID EJ3).

In contrast, ENGOs usually utilized their own magazines, newsletters and press releases to share environmental information with the public.

It is better to have a publication like magazine because through it we can share the information (ID EN11).

Educating the Public About the Environment

Despite informing or advocating environmental messages to the public, the Malaysian ENGOs and media are also speaking about their significant roles in educating the public about environmental issues. The majority of ENGOs (10 out of 11) and media (11 out of 13) interviewees shared similar views that their roles in environmental communication are not only to communicate green messages but also to provide environmental education. One of the ENGOs interviewee stated that:

So, I think NGOs play a very important role, by firstly educating the public. I think, I cannot comment on other NGOs, but from WWF’s point of view, we have got the four pillars of our brand, it is we have got to be knowledgeable, optimistic, determine, and engaging (ID EN4).

The majority of the ENGOs and media interviewees contended that educating the public about environmental issues is aimed at raising environmental awareness on the importance of environmental protection and preservation among the Malaysian society, as stated by one of the media interviewees, who is the assistant editor from Utusan Malaysia:

I think one of the roles of media in communication is to arouse awareness among public through their write up (ID EJ11).

Another crucial element in environmental education is to deliver knowledge to the Malaysian society so that they will be able to understand and be aware of environmental issues that occur around them. From the result of the analysis, nearly half (6 out of 13) of the media interviewees spoke about the importance of delivering knowledge on the impacts of human activities towards Mother Nature. Meanwhile, only 2 out of 11 ENGOs interviewees discussed the same idea. According to one of the media interviewees:

What happens to the environment and what is happen to you if its caught. So we want to tell them that yes you can get in trouble, firstly with the authorities and then second you know, you are contributing to the haze that is going on around you (ID EJ3).

On the other hand, majority of ENGOs (5 out of 11) agreed on the significance of educating the public that it is important to protect the environment, as it is part of our livelihood. One of the examples is as follow:
Because a lot of time it been keep saying the same thing and we say, ‘save the forest, save the forest, save the forest’, they are not going to, most people not going to understand, why should I save the forest? I am happy staying in my house, there is air conditioner... So they will not understand what is the link between me and the forest (ID EN3).

Additionally, the final aim of educating the society about environment is to encourage environmentally positive practices as a mean of environmental protection as explained by one of the media interviewees:

Tell them how they can play their role, how the public can play their role ensuring that they also contribute to the, to environmental cleanliness (ID EJ4).

Discussion

In brief, based on the explanations of the ENGOs and media interviewees, it is legitimate to also conclude that both social actors have shared quite similar roles in environmental sustainability communication, including the roles as an environmental researcher, informer and educator. It is illustrated that the difference in the business orientations of the media and ENGOs does not have a strong influence on the roles of media and ENGOs in environmental sustainability communication as both of them are focused to inform and educate the public on the environment. However, it is vital to note that only the media interviewees spoke about the roles in reporting environmental information, particularly environmental events. It is a plausible fact that the word ‘reporting’ and ‘reporter’ themselves have a strong connotations and are almost inseparable from the media. In other words, it is the media’s general duty to report on any environmental issues that occur locally or internationally via several mediums like news article, feature, investigative reporting and so on, and obviously the ENGOs do not have to do any environmental news reporting. The environmental information reported by the media can influence public’s knowledge and attitude towards environment (Keinonen et al., 2014).

Furthermore, it is also vital to note that both the Malaysian ENGOs and media in this study agreed that they have played a pivotal role in conducting field researches or investigation in order to ensure the accuracy of environmental information before writing the environmental stories and most importantly, to get an actual experience on the issue so that they can communicate it better to the public. Strikingly, the ‘accuracy’, ‘truth’, ‘objectivity’, ‘honesty’ and ‘importance’ of information are always their top priority as they are part of journalism ethics that are embedded in professional codes for the media (Hafez, 2002; Motlagh et. al, 2013). Thus, it is glaringly imperative for the journalists to verify the accuracy of the information that they received from the sources by experiencing it first hand to avoid the risk of misinformation. Past researchers, like Aram (2012) also emphasized the importance of site researches for environmental journalists. According to Aram, the environmental journalists are required to visit the site and accomplish a comprehensive research in order to get a grasp on complex environmental issues, listen to, people who were affected there and after that, report the stories in newspapers.

Contrary to the media, ENGOs working under so-called scientific organization, constantly put researches and conservations as their top priority. Both WWF and MNS have specific research teams who are responsible in conducting researches and conserv-
ations in the field and most importantly, the research output will be shared as a report to the public via their newsletters, magazines, press releases and etcetera. It is safe to say that the WWF and MNS have conducted various researches and conversation projects. On top of that, WWF, for example, has conducted a Malayan tiger conservation project, where a research team actively monitors the land-use changes in tiger habitats in Malaysia. Previous researches like Rusli & Lee (1999) also noted that WWF and MNS were two scientific organizations that were profoundly reliant on scientific data and research while Irini & Norazlina (2012) noted that MNS as the oldest ENGOs in Malaysia have conducted massively successful conservation projects like halting the quarry at Batu Caves in 1980. In essence, such efforts are also observed in other developing Asian countries, where ENGOs have shown their active role in doing research and conservation. In Indonesia for instance, a Yogyakarta based NGO, APURA has been conducting a research on deforestation in the Wonosobo district, Central Java Province and shared the result with the local public and government agencies (Okamoto, 2001).

Apart from the roles in conducting research, it is discernible that the analysis of this study also unearthed that the ENGOs and media interviewees play significant roles, not only in informing the public, but also educating the society about environmental issues. Informing, as described by both media and ENGOs interviewees refers to the attempt to spread environmental messages to the ill-informed public. In the meantime, environmental education is more intensive, as it involves teaching the public about the environment function and how humans can manage the environment in sustainable ways (Chen, 2012). Consistent with the views of the media and ENGOs interviewees in this study, Aram (2012) explained that the fundamental goals of environmental education are to raise environmental awareness, deliver environmental knowledge and most importantly, instill an eco-centric attitude so that the society can be more environmentally sensitive. Without doubt, education is one of the vital tools in addressing the sustainability crisis (Raus, 2016). At the end of environmental education, the society is expected to change their behaviors (Hungerford & Volk, 1990), and take their own action in protecting the Mother Nature from any kinds of destruction, and live in sustainable ways.

The majority of media and ENGOs interviewees from this study greatly underscored the importance of educating the Malaysian society on these two key aspects, first, the knowledge on the negative impact of human actions towards the environment and the knowledge on the interconnection of environment towards their daily lives. For example, the society should be educated on the link between the increasing risks of certain diseases like Malaria to humans with ecological alterations like deforestation, so that they know humans are the cause and for them realize the importance of environment in their lives (Vittor et al., 2006). Without this knowledge and realization on the importance of environment in their lives, the public would not care and they would not take any action (Singh, & Serina, 2012). Next, the conclusion of this study will be provided.

Conclusion

By all accounts, it is safe to conclude that both Malaysian media and ENGOs have played significant roles in environmental sustainability communication. The finding of this study also discovered a new finding that the roles of Malaysian media and ENGOs in environmental sustainability communication are not limited to the cliché roles of just communicating or delivering environmental messages to the masses, but also includes
other pivotal roles such as conducting field research and educating the public about the environment. Therefore, it will be great for the researchers in this area of study to understand that the scope of environmental sustainability communication should not too narrow and limited to only to communicating environmental messages. They also need to be linked with other crucial aspects such as environmental education and research and development. Besides that, this study shows that the environmental sustainability communication field, especially among the social actors like the media and ENGOs have a great potential to be further studied and given more attention by the nation. In other words, it is the time for Malaysia to give serious attention to this area such as offering more courses in environmental communication in Malaysian university, as currently, only School of Communication in University Sains Malaysia offers Science and Environmental Journalism course for Master students. It also would be great if the Malaysian media organizations can provide environmental news reporting similar airtime as politic and economic news reporting to help improve the public’s environmental awareness and knowledge. As a whole, I would recommend future researchers to study the roles of other stakeholders such as scientists, the government, institution of higher learning in environmental sustainability communication and compare their findings with the result of this study.

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Interrelations in the Development of Primary School Learners’ Creative Imagination and Creative Activity When Depicting a Portrait in Visual Art Lessons

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Abstract

Creative imagination is a psychic process of creating a new original image, idea or art work based on the acquired knowledge, skills, and abilities as well as on the experience of creative activity.

The best of all primary school learners’ creative imagination develops at the lessons of visual art, aimed at teaching them to understand what is beautiful in art, as well as through their being involved in the creative process and creating art works themselves.

This paper provides the characterization of the psychological process of imagination, and deals with the importance and dynamics of the development of primary school learners’ creative imagination in lessons of visual art when depicting a portrait, and it also looks at a visual art teacher’s role in organizing the educational process of developing learners’ creative imagination in a sustainable education process.

Keywords: creative imagination, the development of creative imagination, primary school learners, visual art lessons, sustainable education.

Introduction

The problem of the influence of creative imagination on learners’ creative activity in visual art lessons is topical due to the fact that it is one of the most necessary cognitive processes for artistic creativity (Hibnere, 1998; Nilson, Fetherston, McMurray, & Fetherston, 2013), exercising influence on the whole pedagogical process (Shank, 2016).

The development of creative imagination is important not only as a component of any form of learner’s creative activity, but also as that of his behavior in general. The pedagogical practice shows that a creative personality carries out all tasks with enthusiasm, is very self-dependent and responsible, and very actively seeks for and solves demanding problems.
The problem of the development of learners’ creative imagination in visual art lessons has been discussed in scientific works by Nikolajeva (Николаева, 2006), Vigotsky (Выготский, 2005, 1997a, 1997b), Nikolajenko (Николаенко, 2005), Rogov (Рогов, 2001), Hibnere, & Grasmane (2000), Kuzin (Кузин, 1999), Hibnere (1998). They deal with the nature of imagination, methodological techniques of developing learners’ creative imagination and methods of introducing them to art through the development of a creative activity.

Nevertheless, in psychology and pedagogy this problem has not yet been properly studied. Little research has been done on the role of imagination in the field of education (Liang et al., 2012) and visual technologies. In pedagogical practices of teaching visual art, the criteria for assessing the development of creative imagination in its interconnection with improving the constantly stable development of creative activity have not yet been established, and visual art teacher’s role in organizing the educational process within sustainable education context has not been defined as well.

Scholars and pedagogues of Latvia have conducted serious research on clarifying the nature of sustainable education (Pipere, 2016; Badjanova, & Iliško, 2015; Salite, 2015; Iliško, Skrinda, & Mičule, 2014; Iliško, Ignatjeva, & Mičule, 2011; Salite, 2008; Iliško, 2007; Salite, Mičule, Kravale, Iliško, & Stakle, 2007; Salite, Drelina, Iliško, Zariņa, & Oļehnoviča, 2016), and they maintain that education developed within the context of sustainability displays a constant tendency for the development within a long period of time, which is especially vital for aesthetic education as well.

The aim of this research is to establish the dynamics of the development of primary school learners’ creative imagination during the process of creative activity in visual art lessons, when depicting a human portrait, and to define the visual art teacher’s role in this process within the context of sustainable education.

Research methods: theoretical analysis of scientific literature on the problem under the researched; studying primary school learners’ creative works by carrying out a test on establishing the dynamics of the development of creative imagination.

A General Characterization of Imagination Process

Imagination (fantasy) is a psychic process during which new images, conceptions, ideas are created or already familiar images are updated. Imagination implies a creative inventing, inventing of something unobserved before (Kondrova, 2011; Николаева, 2006; Skujīņa, 2002; Кузин, 1999).

Imagination is characteristic of human beings only, and is a necessary prerequisite of their life (Hibnere, 1998), it is a human instrument for understanding experience (Nucho, & Vidnere, 1999, p. 31). Imagination enriches the human mind, since without it human observations and experience are imperfect and limited (Hibnere, & Grasmane, 2000, p. 195). Consequently, we can say that imagination also influences a human’s everyday behavior, a human’s mood, even a human’s feelings. Sotenloer maintains that active inner power of imagination is an essential means for a human’s emotional and spiritual growth (Шоттенлоэр, 2001, p. 18).

Imagination is always based on elements of actually existing objects, which are being transformed into different new combinations by imagination (Hibnere, 1998; Выготский, 1997a). According to S. Rubinstein, imagining implies transforming (Рубинштейн, 2000, p. 317).
This phenomenon was originally described by Rogov, saying that *imagination is the ability to summon up from the wealth of memories in one's consciousness definite components and combine them with new images, and after that build new psychological structures. Imagination is a process of reflecting actual reality* (Рогов, 2001, p. 279).

However, Rubinsteind maintains that imagination may reflect not only actual reality, but, anticipate the future, a may also create an image, a picture of something that has never existed (Рубинштейн, 2000, p. 319).

Imagination is a very complicated psychic process which closely relates to creative thinking. Imagination is an integral component of a thinking process, and, like thinking, it helps to represent the ulterior function in situations when a new solution has to be found. Before producing a real solution, the action takes place in imagination. With the help of imagination, this pre-emptive action in consciousness is performed with bright images (Hibnere, 1998; Kondrova, 2011).

Imagination is strongly related to *memory* as well. Imagination differs from memory in the fact that the function of memory is to keep the images and outcomes of an action of previous experience as intact as possible, while the function of imagination is transforming them (Рубинштейн, 2000, p. 318). In other words, imagination is firmly rooted in the content of our memory (Выготский, 1997b, p. 75). Both memory imagination and fancy imagination are creative products of mind (Ozoliņa Nucho, & Vidnere, 1999, p. 33).

The majority of authors relate the mechanism of imagination to the development of a personality’s practical activity, to the acquisition of such creative kinds of activity as constructing, music, literature, visual art a. o. These kinds of creative activity involve imagining the end products before creating them, as well as thinking about with what kinds of activity these outcomes could be reached (Kondrova, 2011).

The important role of imagination in the development of a creative activity was pointed out by Vigotsky, stating that imagination contributes to shifting the new things into the very flow of our impressions and transforming these impressions so that in the results some new, previously non-existent image emerges (Выготский, 2005, p. 636). As a result of imagination, the rejection of previous experience occurs, i. e. the transformation of the existent experience into the birth of new images, being products of a human’s creative activity (Рубинштейн, 2000; Liang et al., 2012).

However, the transformation of reality in one’s imagination is not a purely arbitrary transformation, it has its own regular ways, manifested in various techniques of transformation. One of these techniques is combining, blending the elements given in the experience into new, more or less necessary, combinations (Рубинштейн, 2000, p. 328).

Vigotsky (Выготский, 1997a, pp. 6–13) draws attention to the regularity of a psychological mechanism of imagination in a creative activity, relating imagination to reality, and shown schematically in Figure 1.

*Figure 1*. Mechanism of imagination in a creative activity (the scheme adapted from Vigotsky’s theory (Выготский, 1997, pp. 6–13))
The drawing shows that during its development the product of imagination describes a circle. The elements which these products are built of have been taken by a human from reality (1). In a human’s thinking (3), they have undergone a thorough processing and have become a new product of imagination (4). Being finally embodied, they have come back to reality again, but they have returned with a new active force improving this reality (5).

In this way, there is a full circle made by imagination during a creative activity, and it is unbroken, stable and constant in its development.

The same complete circle is also possible in the field of a human’s emotional imagination, and it is not hard to imagine it. Vigotsky maintains that when imagination makes a complete circle, both factors – intellectual and emotional – appear to be equally necessary for the act of creation.

Types of Imagination

Pedagogy and psychology offer a great number of different approaches to and classifications of types of imagination. For instance, the book by Nucho and Vidnere (1999) mentions visual, sound, kinetic, smell, taste and tactile imaginations (p. 31). Nikolajeva, in turn, distinguishes two basic types of imagination defining them as plastic (external) and emotional (internal) ones. Plastic imagination basically employs information provided by external impressions, it builds the image out of elements taken from outside; emotional imagination, on the contrary, – from elements taken from inside (Николаева, 2006, p. 54).

In his monograph, Kuzin (Кузин, 1999, p. 228) speaks about involuntary and voluntary imagination. In case of involuntary imagination, images and ideas emerge without any special human’s intention, while in the case of voluntary imagination – they appear as a result of a special intention to create something specific. Relating imagination to the images of memory, Kuzin distinguishes two more types of imagination: re-creative and creative, emphasizing that these two types of imagination are tightly interrelated and directly make a considerable impact on the development of creative activity; the same is underlined by Vigotsky (Выготский, 2005, p. 636).

On the basis of theoretical studies, Kondrova (2011) also speaks about unintentional (passive) and intentional (active) types of imagination, but discusses and characterizes their functions in more detail.

Unintentional imagination emerges when the activity of consciousness is low or is disturbed:

- The most frequent variant – dreams you have in your sleep;
- Disorders of consciousness create such type of imagination as nightmare;
- Toxic substances and drugs induce hallucinations.

Intentional imagination is aimed at tackling creative or personal tasks:

- Re-creative or reproductive imagination is based on experience and manifests itself in re-combination of what has been previously perceived;
- Anticipation or prognosticating is modelling of the future;
- Creative imagination – new images and ideas, specific original products of activity are created by a human himself (Kondrova, 2011).
Move so that there is the order: Hibnere, the Latvian scientist and art pedagogue, maintains that re-creative (reproductive) and creative (productive) imaginations play an especially important role in learners’ creative activity (Hibnere, 1998, p. 99).

According to Vigotsky, reproductive imagination implies the same memory which is involved when a human reproduces in one’s consciousness several images experienced by him, but he reproduces them at the time when there are no direct reasons for reproducing them. For instance, when drawing some landscape, the artist recalls some other, similar, landscape he has seen previously, i.e. a specific landscape summons up a previously experienced image (Выготский, 2005, p. 636). Reproductive imagination is a rich source for the conceptions of learners’ creative activity. When depicting the conceived images in a drawing, some form or application, a learner’s psychic activity is especially intense. For the images of consciousness to be distinct enough, a learner strains both his memory and thinking, and also takes a definite emotional attitude towards the phenomenon, which can be a situation depicted (Hibnere, 1998, p. 99).

Creative imagination is a creative conception, the invention of something new, and the forestalling visualization of the conception. Creative imagination is one of the most indispensable cognitive processes of artistic creative activity (ibid., p. 165).

Creative imagination takes an essential place in all kinds of human creative activity, and is the most outstanding personality achievement (ibid., p. 100). Creative imagination enhances the development of learner’s artistic creative activity and is strongly related to fantasy, dreams and intuition.

Fantasy is an artistic fiction based on a personality’s ability to freely combine images emerging in sub-consciousness, while imagination is a mental cognitive process (Nucho, & Vidnere, 1999; Рогов, 2001). Dream is the imagination directed towards the future, towards the prospects of a human’s life and activities. Dream is one of the factors stimulating the creative search and the development of creative activity not only of a learner, but also those of an adult (Николаева, 2006; Рогов, 2001; Кузин, 1990). Intuition is knowledge which a human has, being unaware of the way he has acquired this knowledge. Intuition allows seeing a problem situation in its entirety, making imagination more focused, which leads to prognosticating the future. Besides, knowledge is acquired immediately as the understanding of the whole, through intuition (Николаева, 2006; Liang et al., 2012).

In the case of creative imagination, the creation of new images, which have been neither in the consciousness nor in the previous experience, it comes to the foreground. In case of creative imagination, out of these elements emerge new combinations, though the elements themselves are not new (Выготский, 2005, p. 637). Thus, imagination and creativity are strongly interrelated, however within this relationship the leading role belongs to the reverse dependence: imagination is being formed during the process of a creative activity (Рубинштейн, 2000, p. 323).

Consequently, among all types of imagination, creative imagination takes the most significant place in learners’ creative activity. Creative imagination is related to the abilities oriented towards the effectiveness of a creative activity, such as novelty, transformation, quality and the degree of elaboration of the conception. Creative imagination arouses a wish to create something new and mobilizes all efforts for creating this imagery image, idea or object and for implementing the conception into an artistic creative work.
Peculiarities of the Development and Influence of Imagination on Primary School Learner’s Creative Activity

Psychology and pedagogy maintain that, in general, human’s imagination starts developing at the age of three, and remains active throughout the childhood, adolescence and youth. However, only a small number of adults, those who are very talented and creative, possess the ability of imagination. With age, the majority of people get gradually involved in the prose of everyday life and lose the dreams of their youth. Fortunately, imagination does not vanish completely, it appears anew in some aspects of life and creative activity (Николаева, 2006, p. 35) when a creative approach to solving the problem is required.

Every person can be creative. You should only unlock the creative potential and keep it constantly active in the process of a creative activity. In a creative process a personality shapes himself (Алиев, 1999; Čehlova, 2002; Varzim, 2005). A creative person never tries to perceive reality objectively. His will is oriented towards understanding the subjective sense of reality and he strives to perceive reality in the way he feels it, to make it act through his creations (Кершнштейнерс, 1925, p. 23).

The analysis of pedagogical-psychological literature and our experience in scientific research-based teaching of different subjects at school and art school, as well as delivering different courses on art in the art study programs for students, allow drawing a conclusion that a creative activity develops in all stages and at any age of human life, starting with preschool age children, which is called the initial stage of a creative activity, and then followed by the preparatory stage of a creative activity (elementary school pupils – class 5–9), reinforcing stage of a creative activity (secondary school pupils), perfecting stage of a creative activity (students in higher education art study programs) and a creative stage (art specialists) (Шлова, Саввина, Čačka, & Volonte, 2007; Čačka, 2009; Шлова, & Čačka, 2009; Čačka, & Шлова, 2001).

Each stage of a creative activity serves as a basis for the next stage and creates preconditions for the transition from the lower stage of a creative activity to a higher stage. If any stage in this system is missing, it may stop or slow down the development of a creative activity (Čačka, 2009, p. 39).

Pursuing the aim of this research in greater detail: we will consider the interconnections and peculiarities of the development of creative imagination and its influence on the development of primary school learners’ creative activity. Primary school is the first stage in school education, and the stage when the basic knowledge, skills and attitudes are acquired. In Latvia, the period of basic education comprises 9 classes. Basic school includes a primary school (class 1–4) where the learners’ creative activity is at the preparatory stage, and then gradually developing, in classes 5–9, pass to the development stage.

The primary school age is an especially favourable period for beginning a serious and systematic work on the development of imagination and shaping learners’ views about a creative activity (Мелик-Пашаев, 1995). Starting school marks, a qualitatively new stage in the development of learners’ imagination. The imagination is enhanced by broadening their knowledge and giving them creative and original tasks to fulfil (Кузин, 1999; Николаева, 2006). This process is made even more effective and the development of imagination is even more enhanced by constant creative activities in the circle of their family (with parents, grandparents, sisters and brothers) and out-of-school activities in various forms of interests and education.
All learners are talented and therefore work with primary school children is aimed at preserving and developing their talent. Naturally, at the primary school age, a learner has already gained certain experience, and has some skills and attitudes, however all activities have to be perceived and interpreted as a game which requires a methodologically-directed continuation of the “game’s” action, though even in this period it is already clear that any learner’s activity is creative (Мэй, 1995; Алиев, 1999; Csikszentmihalyi, 1999; Howe, 1999; Ландау, 2002; Lubart, & Georgsdrottir, 2004).

A typical feature of a junior pupil’s creative activity is its being based on concrete objects. However, gradually when growing older, instead of relying on objects or actions they start relying on a word, which gives the opportunity of creating a new image in one’s mind, through one’s imagination (Матюхина, Михальчик, & Прокина, 1984, p. 237).

At this stage, the learner’s sense of form and line is perfected. Compared to the creative manifestations at the primary school age, gradually the need now arises to show not only the specific features of the depicted object, but also the formal relations between its parts. The scientific studies and pedagogical practice show that, little by little, primary school learners start supplementing the so called X-ray or schematic drawing of a human, acquired at the pre-school age, with drawings of a human torso, which ears, hair, hands, and palms with the fingers spread (ibid., p. 238).

Up to the age of 8—9, in their drawings, learners depict a human body either as rectangular or round, and a head is often disproportionately large. Up to the age of 10—11, they represent human faces full-face and in profile only if required. As they grow older, the dimensions of a head in relation to the size of a torso grow proportionally smaller (Николаенко, 2005, p. 148). 10–12-year-old children are able to sketch a human figure in different positions and various movements, which testifies to the fact that learners have started to analyze imaginary objects, unintentionally paying attention to proportional relations between parts of the body (Hibnere, 1998, p. 77). According to many scientists, such changes in learners’ creative works can be attributed to the peculiarities of the development of imagination and activity of thinking, as well as to the interrelations between perception and thinking which exist at this age. For them, the element of analysis prevails, while synthesis is behind analysis for the time being (Матюхина, Михальчик, & Прокина, 1984, p. 238).

In primary school, an emotionally more attractive and significant educational material is being reduced more successfully, since at this period emotion cannot yet be separated from their cognitive processes – perception, memory, thinking and imagination. Primary school learners’ visual-imaginary memory and creative imagination are much better developed than their verbal-logical memory (Мелик-Пашаев, 1995; Jurgena, 2001).

At the age of 11 (basically), they reach the stage of “a true picture” and demonstrate their ability to represent the object spatially, and a real drawing in the true sense of the word appears. At this age, the development of learners’ spatial concepts, perception and visual imagination about the placement of objects in a three-dimensional space should be enhanced (Выготский, 1997а; Hibnere, 1998). Learners should also be involved in creating and analysing different spatial objects, as well as representing the created spatial object in plane.

During the process of education, when the ability of managing one’s own mental activity generally develops, imagination also becomes a manageable process, and images
created by it appear in tasks set before learners by the content of educational activity (Матюхина, Михальчик, & Прокина, 1984, pp. 239–240).

A great number of pupils like drawing, but there are only a few who would like to become professional artists. If we compare 6–7-year-old learners with 15-year-old ones, it turns out that 15-year-old pupils are involved in creative activities 2–3 times less (Ананьев, 1999, p. 456). Naturally, there are exceptions. If at the age of 6–7 learners get interested in such activities, their interest in art may not flag until the age of 15.

If primary school learners’ creative activity has been passive, it should be activated anew at teenagers’ age, however, quite frequently it turns out to be too late already, since teenagers’ interests and activities take various directions in social life, and it depends on teenagers’ physiological development as well. This transitional age is known to be critical, and the activity of imagination, in the way it manifests itself in childhood decreases during adolescence (Выготский, 1997a; Hibnere, 1998; Feist, 1999; Eisner, 2002).

At this stage, learners start feeling doubtful about their abilities, and a decrease in their creativity is observed, which, of course, has to be attributed to the age peculiarities (Выготский, 1997a; Lubart, & Georgsdottir, 2004). This situation is usually coped with only by particularly gifted children or by those for whom teaching of visual art at school or special conditions at home create favorable preconditions for a further development of visual art abilities.

From the age of 11 and up to the age of 15–16, learners go through the analytical-assessing stage when visual perception plays the principal role. Therefore, a teenager strives for representing a real and natural form, and takes his failures to heart. They wish to depict what they have seen as it is in reality – realistically, however, as the pedagogical practice proves, many teenagers like to represent everything graphically, minimally applying colour (Аранова, 2004, p. 32).

At primary school age, learners’ inquisitiveness rapidly grows, new questions, which are oriented towards the past and the future, arise. According to Svence, a teenager is able to consider complicated, and abstract ideas, compare alternatives, and independently seek for what is new and unusual (Svence, 1999, p. 127). Teenagers still better perceive things they can imagine. To understand concepts is still difficult for them, but they already demonstrate critical thinking, since such exclamations as “I don’t believe what is written in books, in life it is different!” are often given (Jurgena, 2001, pp. 81–82). I myself decide what I wish to want, according to the criteria I establish myself (Gudjons, 2007, p. 153). Virtual environments, social communication and opportunities of rapid communication make a great impact on the contemporary generation as well.

At the primary school age, the development of imagination changes and develops rapidly, and at the age of 12–14 it reaches a maximal increase. At this stage, learners can already represent transformations in perspective and show movements by means of lights and darks. Imagination is hindered, if learners are overburdened with a great amount of specific information. The more rapidly the scope of knowledge expands, the quicker imagination diminishes (Hibnere, 1998). Therefore, for a more seminal development of learners’ creative activity in close interconnection with organizing a creative activity, an individual approach to every learner is needed during the educational process.

To conclude this section, we would like to point out a special importance of developing learners’ creative imagination in interrelation with promoting a creative activity at a school age, since imagination plays an important role in every creative process.
This is especially important for the artistic creativity (Рубинштейн, 2000). A properly developed creative imagination is not only a guarantee for a successful development of learner’s creative activity, but also a guarantee for the development of all their personal qualities required to organize their future. Vigotsky states that the principal educational perception of pedagogical work must lie in pupil’s preparing for the future, and developing learner’s imagination is one of the basic forces during the process of achieving this aim (Выготский, 1997a).

The Dynamics of the Development of Imagination During the Process of Primary School Learners’ Creative Activity at Visual Art Lessons

Following the theme above, we will focus on studying the peculiarities of primary school learners’ representations of portraits, where the abilities of creative imagination are manifested at their best. A portrait as an art genre is characterized by an in-depth psychological aspect, when in the art work the artist portrays both the person’s appearance and inner emotional world.

The studies of scientific literature testify to the fact that until now the dynamics of the development of primary school learners’ creative imagination have not yet been studied in pedagogical practice through their creative works on representing portraits.

The practice of employing children’s drawings of human figures for assessing learners’ intellectual abilities is widely spread among psychologists, practitioners of medicine and pedagogues in many countries. For this purpose, the Goodenough-Harris Drawing Test Draw-a-Man Scoring Guide, developed by two psychologists – Goodenough, Florence and Harris, Dale is usually used. In the test, the system of scoring points has been developed for assessing a drawing with precisely represented details of a human figure: e.g. the reproduction of a great number of parts of a body, articles of clothing and accessories, facial expressions the figure’s movements and sex.

By making use of human figure-drawings, many scientists have carried out research on students and adults (Fall, Eaves, & Woods-Groves, 2006; Dey, & Ghos, 2016; Khasu, & Jr, 2016), pre-school age children (Porov, 2001; Tanka, & Sakuma, 2004; Maley, 2009; Rehrig, 2015), primary and secondary school learners etc.

These authors have arrived at the conclusion that the use of this type of tests deserves great attention (Tanka, & Sakuma, 2004), however, results obtained from tests should not be relied on completely (Imuta, Scarf, Pharo, & Hyne, 2013), and the test should be used very carefully (Khasu, & Jr, 2016), therefore, the testees have to be prepared as to selection and decision-taking during the experiments (Troncone, 2014). Besides, Rogov comes to the conclusion that these criteria cannot serve as a basis to make conclusions about a child’s mental retardation (Porov, 2001, p. 309).

The analysis of scientific literature allows us in conclude that in order to establish the peculiarities of primary school learners’ creative imagination when they fulfil the task “Portrait” at visual art lessons, the test Goodenough-Harris Drawing Test Draw-a-Man Scoring Guide can be partially used (Porov, 2001, pp. 296–309; Maley, 2009, pp. 328–343). For the research on the development of learners’ imagination at drawing a human portrait, we have taken, altogether including 73 (71) criteria, criteria 1–23, characterizing the representation of the principal human features from this test.
Taking into account the methodological recommendations on drawing a human portrait, reflected in the research by Hibnere (1998, pp. 105–109), Nikolajenko (Николаенко, 2005, pp. 146–150), and on the basis of the analysis of primary school learners’ creative works, 12 criteria were selected and adapted for the purpose of this research. Indicators of these criteria in drawings were as well designed during the experiment, according to the three levels of creative imagination (Table 1).

Table 1. **Criteria and Indicators in Drawings for Establishing the Level of Learners’ Creative Imagination at Representing a Human Portrait (adapted test Goodenough-Harris Drawing Test Draw-a-Man Scoring Guide) (Maley, 2009, pp. 328–343)**

<table>
<thead>
<tr>
<th>№</th>
<th>Item</th>
<th>Low level (1 point)</th>
<th>Average level (2 points)</th>
<th>High level (3 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Head present</strong>: any clear method of representing head</td>
<td><img src="image1" alt="Low level" /></td>
<td><img src="image2" alt="Average level" /></td>
<td><img src="image3" alt="High level" /></td>
</tr>
<tr>
<td>2.</td>
<td><strong>Neck present</strong>: outline of neck continuous with that of the head, of the trunk, or of both. Line of the neck must “flow” into head line or trunk line</td>
<td><img src="image4" alt="Low level" /></td>
<td><img src="image5" alt="Average level" /></td>
<td><img src="image6" alt="High level" /></td>
</tr>
<tr>
<td>3.</td>
<td><strong>Eyes present</strong>: either one or two eyes must be shown. Any method is satisfactory. The horizontal dimension of the eye must be greater than the vertical dimension. Sometimes in profile drawing of a high grade the eye is shown in perspective. In such drawing any triangular form is credited</td>
<td><img src="image7" alt="Low level" /></td>
<td><img src="image8" alt="Average level" /></td>
<td><img src="image9" alt="High level" /></td>
</tr>
<tr>
<td>4.</td>
<td><strong>Eye detail</strong>: pupil. Any clear indication of the pupil or iris as distinct from the outline of eye. Both must appear if both eyes are shown</td>
<td><img src="image10" alt="Low level" /></td>
<td><img src="image11" alt="Average level" /></td>
<td><img src="image12" alt="High level" /></td>
</tr>
<tr>
<td>5.</td>
<td><strong>Eye detail (brow or lashes)</strong>: brow, lashes or both shown</td>
<td><img src="image13" alt="Low level" /></td>
<td><img src="image14" alt="Average level" /></td>
<td><img src="image15" alt="High level" /></td>
</tr>
<tr>
<td>6.</td>
<td><strong>Nose present</strong>: any clear method of representation. <strong>Full face</strong>: credit all attempts to portray the nose in two dimensions, when bridge is longer than the width of the base or tip. <strong>Profile</strong>: credit all crude attempts to show the nose in profile, provided tip or base is shown in some manner. Do not credit simple “button”</td>
<td><img src="image16" alt="Low level" /></td>
<td><img src="image17" alt="Average level" /></td>
<td><img src="image18" alt="High level" /></td>
</tr>
</tbody>
</table>

Sequel to Table 1 see on the next page.
The dynamics of the development of learners’ imagination is established by three levels according to the points given:

- **A low level** of the development of imagination (1–12 points). If the level of creative imagination is low, the majority of learners represent a human portrait schematically, and drawings, as a rule, are primitive and with stereotyped schemes present.

- **An average level** of the development of imagination (13–24 points). At this level, the schematic character of facial elements in learners’ drawings gradually disappear facial features take a more specific form.

- **A high level** of the development of imagination (25–36 points). At a high level, learners’ creative imagination produces detailed and, as a rule, original drawings, with highly elaborated elements.
If any facial element in general is missing in the drawing, for instance, no nose or ears, then this criterion is assessed by 0 points.

It should be emphasized that the above mentioned points are only an approximate reference-point for assessing the development of learners’ imagination.

The experiment involved 167 learners from classes 1–9. During a visual art lesson, learners were offered to draw a portrait of a human in pencil or in pen. The teacher did not give any specific instructions on how to draw a portrait. No commentaries were allowed during the fulfilment of the task. Testing was done individually. When the task was done, an additional interview with some learners was held to clarify the uncertain details in the representation of a portrait. On the whole, the results of the experiment in percentage terms are shown in Table 2.

Table 2. The Level of the Development of Learners’ Creative Imagination After the Research (in percentage for every class)

<table>
<thead>
<tr>
<th>Level</th>
<th>Class 1 (37)</th>
<th>Class 2 (15)</th>
<th>Class 3 (12)</th>
<th>Class 4 (28)</th>
<th>Class 5 (27)</th>
<th>Class 6 (14)</th>
<th>Class 7 (9)</th>
<th>Class 8 (12)</th>
<th>Class 9 (13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (%)</td>
<td>41</td>
<td>33</td>
<td>42</td>
<td>43</td>
<td>41</td>
<td>16</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Average (%)</td>
<td>54</td>
<td>53</td>
<td>29</td>
<td>32</td>
<td>33</td>
<td>36</td>
<td>33</td>
<td>16</td>
<td>46</td>
</tr>
<tr>
<td>High (%)</td>
<td>5</td>
<td>14</td>
<td>29</td>
<td>25</td>
<td>26</td>
<td>48</td>
<td>67</td>
<td>76</td>
<td>54</td>
</tr>
</tbody>
</table>

At an average, 25% of the learners of all classes have a low level, 37% of the learners – an average level, and 38% of learners – a high level of the development of creative imagination. The dynamics of the development of learners’ creative imagination is graphically shown in the diagram (Figure 2).

![Figure 2. The development of learners’ creative imagination level in all classes](image)

Consequently, the outcomes of the test allow us to conclude that at the initial stage of the experiment, in different age groups there are learners with different levels of creative imagination. Moreover, the dynamics of the development of creative imagination by levels when passing from one class to the next one changes, showing the increase of the high level. However, in every class there are still quite numerous learners whose level of creative imagination is either low or average. This shows that to develop learners’ creative imagination a special work is required during the process of creative activity in visual art lessons.
Visual Art Teacher’s Role in the Development of Imagination during the Process of Primary School Learners’ Creative Activity within Sustainable Education Context

Visual art is a totality of visually perceptible works of art – a culture value (Hibnere, 1999, p. 187). Visual art as the subject in school (drawing, painting, modelling etc.) promotes learners’ purposeful cognitive process and develops their cognitive activity, which are required for learners’ further professional growth in the field of art (Кузин, 1999; Liang et al., 2012; Nilson, Fetherston, McMurray, & Fetherston, 2013). Therefore, all schools need to find a way for the four pillars: Learning to know; Learning to do; Learning to live together; Learning to be able to find their equal place in education (Iliško, Skrinda, & Mičule, 2014, p. 89).

The basic task of visual art lessons is to stimulate learners’ creative imagination and fantasy, and the visual art teacher’s aim of these lessons is to create the atmosphere of spiritual freedom and joy of creating art works; a teacher is supposed not only to teach learners how to paint, draw and model, but also has to find methods of how to involve learners in art, how to teach them to work creatively, how to reveal and develop their creative potential in an activity which would be accessible and interesting for learners. Evidently, recipes are hardly acceptable in this case. However, search should be done in all directions (Кларин, 1994; Kincans, 2006), and teacher’s proficiency, pedagogical experience and example play a fundamental role in it, because “the teacher’s mission is to look at the world and to see more of what is known for society, education and science” (Salite, 2015, p. 27).

Naturally, a visual art teacher has to be an artist with education in art pedagogy, and in the first place use his pedagogical skills in involving learners in art. This implies that teacher’s educational work is a creative process and the teacher has a creative personality whose creative freedom cannot be limited by any programs, methodological regulations and study plans (Lind, 2013, p. 152). Th teacher has to be also a researcher (Salite, 2008) in the reforming of the curricula and teaching approaches in their schools (Iliško, 2007).

A teacher can be highly creative in developing materials and approaches that spark children’s interests and motivate their learning. The visual art teacher has to take the responsibility and the control of oneself, has to be innovative in “creating a learning environment that would promote interest toward sustainability” (Salite, 2008, p. 14), so that the educational process would enhance the development of every learner’s artistic abilities, skills, the development of critical thinking, creative imagination and wish to be engaged in a creative activity (Jeffrey, & Craft, 2004).

For a teacher, it is important to create such situations where a learner could feel that he is a unique personality, differing from others by his own individual qualities and human value (Pipere, 2016; Badjanova, & Iliško, 2015). Creation implies creating new results and a new way of fulfilling the task in different conditions, and perhaps completely unexpected ways and tasks are possible (Salite et al., 2007, p. 289), including the content of sustainable education.

The main features of sustainable education are the following: the emphases on the learner and his/her meaningful questions, constructivist modes of learning implemented through the inquiry, a democratic learning community where each participant is involved in active decision-making concerning his/
Interrelations in the Development of Primary School Learnersí Creative Imagination...

her learning. Education for sustainable development means not only changing the content that we teach, but also the traditional notions about how we teach (Iliško, Ignatieva, & Mičule, I. 2011, p. 88).

In education, it is necessary that the idea of sustainability is discovered and accepted in the learners’ minds as their personal and interest-sustained idea, where action learning, action research, building a shared vision and decision-making represent the most typical solutions (Salite, 2008).

As it was said before, any product of imagination is based on actual facts, and on observations. The richer the store of observations is, the more opportunities for using it in the activity of imagination are provided. To successfully develop learners’ creative imagination, in every lesson a teacher constantly has to encourage them to demonstrate fantasy, free imagination, since these are fundamental qualities of creative thinking. The accumulation of various impressions, and the development of the power of observation in every lesson are indispensable prerequisites for the development of creative imagination in visual art lessons (Кларин, 1994; Кузин, 1999). Creation always brings joy and surprise (Alijevs, 1999). Creative tasks, first and foremost, have to contribute to removing the “barriers, “while creating, have to provide the opportunity for the learners to ignore instructions and let loose their imagination.

In the lesson, learners must have comfortable working conditions, so that they can work effectively, having no fear that their new idea could be accepted inadequately. Fear is quite a dangerous barrier for people oriented to achieving success. Fear of failure, of public condemnation paralyses imagination, decreases a creative activity, and this leaves a negative impact on the development of a creative personality (Рогов, 2001, p. 296).

Imagination always implies some removal from reality. However, in any case the source of imagination is the objective reality (Кузин, 1999, p. 225). It is impossible to reproduce absolutely precisely a material from: whether you like it or not, the artist depends on his eye, his hand, which are more artistic in this case (Кандинский, 1989, p. 29).

Works of creative imagination enhance learners’ activity very much, because at doing such works they are able to maximally express themselves, since the opportunity is provided to visualize one’s own individual idea in different art genres, for instance, presenting a landscape or a still life, a human or animal figure, a portrait etc. In a drawing of imagination, familiar objects can be described in an unusual way. Imagining does not imply obligatory deforming a form, but rather from an already familiar image to create new, until now nowhere observed images, devised and imagined by the author, whose depiction in real life is not envisaged or planned (Hibnere, & Grasmane, 2000, p. 195).

When additional research was carried out after the teacher had done appropriate work on the development of primary school learners’ creative imagination during the process of drawing a human portrait, the analysis of the results showed that the levels of learners’ creative imagination at passing from one class to the next had changed. On average, in all classes the number of learners with a low level of the development of creative imagination had decreased by 15%, while the number of those with a high level of the development of creative imagination had increased by 29%.

The observation showed that learners liked creative tasks. Such tasks were interesting for them, and they wanted to work not fearing to demonstrate their individuality. Their
works showed that they had become more serious in respect of this type of tasks. Consequently, we may conclude that visual art lessons qualitatively develop children’s imagination, increase their activeness and motivation.

Some qualitative changes can also be mentioned. The learners’ need for creation and creativity, being spontaneous, had started to transform into a tradition. The learners began searching for original, non-standard solutions. They no longer looked at a creative lesson as a forced requirement, but rather as a natural and logical continuation of work begun before. Learners put forward their proposals, expressed their wishes, and suggested changes in tasks, which all shows that they had achieved a qualitatively new level of creativity. They created prudentially, for the result in the future, which implies that their creative imagination had also qualitatively changed.

Primary school learners’ works can be an example of the above (Figures 3–6). Works by learners of other classes had changed qualitatively too, showing that learners’ creative imagination can be influenced by the efficiently organized educational process and work of a visual art teacher.

![Figure 3. Anna-Marija Brigita (Class 1) (28 points – Level 3)](image)
![Figure 4. Ksenija (Class 2) (33 points – Level 3)](image)
![Figure 5. Jana (Class 3) (31 points – Level 3)](image)

Our research shows that creativity is natural for learners and they are able and want to be engaged in creative activities. Teacher should only encourage them a little to do it, to support them in their efforts and duly contribute to the development of creative imagination.

**Conclusions**

The theoretical and experimental research leads to the conclusion that the development of learners’ creative imagination will be successful and adequate within the context of sustainable education, if learners’ skills, their creative potential and talent are purposefully developed and a learner-friendly environment is created.

Taking into account the results of the theoretical and empirical research on defining the development of creative imagination during work with primary school learners in visual art lessons, a teacher should purposefully, on the basis of the results of the development of learners’ creative imagination, develop learners’ creative activity, constantly motivate them for creative work, since creative imagination and a creative activity
mutually add to each other and mutually develop each other, thus promoting the formation of a creative personality. This can be achieved only through constant and hard work of a teacher, and the teacher’s personal example is also an essential prerequisite for this in a sustainable education context.

The test Goodenough-Harris Drawing Test Draw-a-Man Scoring Guide can be adapted not only for identifying the dynamics of the development of learners’ creative imagination at drawing a human portrait, but also for drawing a figure in general.

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Pedagogy is Coming Back!
Some Hopeful Signs for Sustainable General Education and Worldview Education

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Abstract
Neo-liberal voices are still very strong in education broadly speaking and have a marginalizing impact on normative pedagogies like religious, worldview, moral and civic education. But there are clear and hopeful signs that pedagogy is coming back. After sketching the current situation and its antecedents, the author addresses the views and ideas here provided by pedagogical spokespersons, teacher-leaders and teachers – most of them working in the domain of religious education or worldview education. How do they perceive the current changes in more normative and pedagogical-laden directions? What precisely has caused these changes? Is the return of pedagogy just a temporal hype or is it a real revitalization? What have been the consequences for them professionally and personally speaking? It is the author’s intention and hope that this article will encourage educators in general and religious and worldview educators in particular with an eye on fostering sustainable pedagogical approaches.

Keywords: pedagogy, general education, worldview education, social sustainability, public intellectuals, normativity.

The Current Situation

There is, in my view, still an urgent need for a continuing and sustainable awareness in education towards pedagogy as a necessary counter-voice against the still influential neo-liberal rhetoric, politics and practices in which labor-market orientation and schooling as preparation for the knowledge-based economy are praised as the core aims of education in schools. These neo-liberal voices are not only a threat for education in general but have a marginalizing effect on normative oriented pedagogical approaches such as moral, aesthetic, civic and religious or worldview education (Miedema, 2014b; Ohlmeier, 2013).

This still tremendous neo-liberal impact in education has to do with the fundamental changes that have taken place since the 90s in the educational systems of many countries like the US, the UK and also the Netherlands. Since that time there has been a shift towards far greater external, mostly governmental control over the curriculum, and a far greater emphasis on measurable output and accountability, often related to tight systems of inspection. In this process the purpose of schooling has become increasingly

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defined in terms of the effective production of a pre-determined output, often measured in terms of exam-scores on so-called ‘core subjects’ such as mathematics and first language (Biesta, & Miedema, 2002; Miedema, 2014b).

This last development of education’s orientation focusing on Europe and the Europeanization of education on the labor market and education seen as preparation for the knowledge-based economy in terms of employability, flexibility and mobility, has been carefully reconstructed by Peter Schreiner on the basis of documents of the Council of Europe (being the ‘conscience’ of Europe) and the European Union. Schreiner has convincingly shown that notions such as ‘learning society’ and ‘knowledge-based economy’ cannot mask what he has been adequately characterized by him in Habermasian terminology as the ‘colonization of education policy by economic policy imperatives’, and the determination of national educational policies on the basis of economical-educational analyses (Schreiner, 2012).

Even when the notion or rhetoric of edification (Bildung) is recently used again by politicians and school administrators this could not hide away the fact that in educational policy and practice the basics are still overemphasized to the detriment of the formation of the whole person of the students. In respect to the fact of the use of the very concept of edification as part of the more encompassing concept of reflexivity (see Jackson, 2016, 157–158 for a broad conceptualization of this term) or the notification that the use of Bildung is all over the place now also internationally speaking (see for example Nussbaum, 2010), we need carefully look at what kind of connotation is really at stake here most of the time, especially used by politicians and administrators. Quite often the connotation in using this concept is that personhood formation of students means having the possibility to make those subject matter choices that fit best with the students’ own personality. So, what we see here is paying tribute to the trend of hyper-individualization. Thus the personality, the personhood of the student, is something that already exists and this already fixed personality needs to be discovered by the student her/himself. The students should be able to discover who they in essence are and what their already existing capacities are. However, a dynamic conceptualization of the notion of Bildung, taking into account the dynamic and emergent identity development, does not presupposes an already existing, an already given personality. On the contrary, personhood formation or Bildung is conceptualized as the development of the student in relationship, encounter and dialogue with the other persons and the surrounding world and thus also being confronted with oneself. This is happening in a process of socialization or participation and distaniatization as an emancipatory and liberating process (see Wardekker, & Miedema, 2001a; 2001b; Wardekker, 2016).

**Sustaining the Space and Place for Pedagogy**

So, the shift towards a one-sided and even narrow conception of the aim of schooling and a narrow conception of the very notion of Bildung or edification, makes the question as to whether there still is or could be more space and place for ‘education’ or ‘pedagogy’ in the school – an urgent one for those who are in general concerned about the purpose of schooling. A specific perspective here is related to the concept of social sustainability and (civic) education for sustainable development (Ohlmeier, 2013; Brunold, 2015). Could the pedagogical voice be strengthened in a practical, social and political way? The pedagogical contribution is of great importance because it is part and parcel of every
Pedagogy is Coming Back! Some Hopeful Signs for Sustainable General Education.

nation of the world. It concerns every human being, humankind and humanity in general and on a global scale and has impact on the human shaping of the world by means of practical, social and political learning processes (Miedema, & Bertram-Troost, 2015, p. 48).

This especially holds for the teachers in the schools who quite often feel that these developments miss the very point of what they think the sustainable and continuous aim of their work is all about. Our own recent research on principals of Dutch Christian elementary schools has convincingly shown that their view is fully in line with this kind of criticism. It is clear that the principals are in favor of a concern for the whole person of the students in school practiced over time during all the formative years and from the perspective of a transformative and transactional pedagogical paradigm (Miedema, 2014, pp. 89–93), instead of instructional and transmission approaches of a reductionist kind. One of the most important threats the principals experience is the discrepancy between their view on edification (Bildung) as the core and embracing aim of their professional work, and the strong emphasis on instruction, on the basics, and on particular outcomes as such embodied in governmental policies and the way the Inspectorate of Education is operating in assessing their work (Bertram-Troost, Miedema, Kom, & Ter Avest, 2015).

Hopefully, however, I notice that the neo-liberal tanker is very slowly heaving now in more pedagogical directions. Some principals and a young generation of teachers are organizing themselves on a national scale and have a loud and strong pedagogical voice in the public domain. How do a few selected spokespersons experience the current situation and their own stance and positioning in all of this? How do they perceive the current changes in more normative and pedagogical-laden directions? What precisely has caused these changes? What have been the consequences for them professionally and personally speaking? This is the hard core issue of this paper, and I will deal with that in the reminder of this presentation.

Pedagogues as Public Intellectuals

However, before doing this I will also briefly point to something that in my view is really necessary, too. This is that general educators but also religious and worldview educators should act in society at large as public intellectuals for the benefit of children and youngsters to support them in developing their self-responsible self-determination, their personhood in education broadly speaking and also in religious and worldviews education. This is necessary, because educators are nearly invisible in the public arena characterized by clashes of ‘power-knowledge,’ by knowledge-politics (Foucault, 1980). We might think that our arguments for the need of education and religious or worldview education from a pedagogical point of view are self-evident and do not require directing attention to this need of a wider public. However, we definitely need to voice our views in the public square otherwise other parties will take over our scarce space, for example in the case of religious and worldview education loud-voiced fundamentalist secularists. What might also be helpful is to try from a pedagogical-strategical perspective to position new generations of educationalist educators as gate-watchers in governmental and semigovernmental organisations and institutions to voice from within our ‘know-how’ and ‘know-that’.
So, I plea for educators especially in academia, in specific communities (e.g. religious or worldview organizations) and working as civil servants to act as public intellectuals in society at large (Miedema, 2016). Intellectuals are the fortunate possessors of a certain amount of cultural capital, with this capital they play a public role visible for everyone, and always are political issues at stake here (Nauta, 1992, p. 92). Public intellectuals share two characteristics:

i) they have an obsession for public debates and the corresponding commitment to give account in a very comprehensible way, that is in clear and easy comprehensible language; they are not writing articles for double-blind refereed and highly cited academic journals, but appear on radio and TV and do the same for daily and weekly newspapers;

ii) they are allergic to discrimination and the exclusion of particular groups from taking part in the debates; when such groups are not acquainted with the existing rhetorical traditions, the public intellectuals are willing and able to help such groups and are in service to allow them to ask to speak and to speak up (see also Nauta, 1987, 28–29).

What is most threatening and mostly results in not taking the role of a public intellectual? It is overreached rationality as a means of balance or equilibrium as well as looking for the mid-position, self sought or a position pushed towards by others. The consequence is that voicing a radical and clear cut stance in the public square is avoided.

Striving as educators for impact in the public domain as public intellectuals from a strong societal commitment should, in my opinion, always go together, following a few very pragmatic rules:

a) enjoy the public debate and give a comprehensible way account of the insights and knowledge in our discipline;

b) avoid doing this as a fundamentalistic ‘believer’, that is in a grim, bitter and pedantic voice, but do this skilful, crystal-clear, and with humour and irony;

c) ask your opponent in a debate again and again for information in respect to arguments and underpinning of her/his stance, and call them to account on their intellectual integrity (Miedema, 2007).

Thus, what we really need now is to find educators acting in society at large as public intellectuals for the benefit of children and youngsters to support them in developing their self-responsible self-determination, their personhood in education and in religious and worldview education. They should take their responsibility at the place where they are or will be located nationally and globally (see Miedema, 2016).

A Qualitative Pilot

So, is it possible to speak of the return of pedagogy? What is the actual state-of-the-art? In order to get more insight in the view of a small group of experts I carried out a qualitative pilot. So, I have sent the same question to a few selectively chosen persons respectively P1) working as identity advisor for an intermediate organization for Christian education in the Netherlands for staff as well as administrators, P2) working as teacher trainer and researcher in a teacher training institute of one of the classical and very prominent Dutch universities, P3) a teacher trainer working in a denominational, non-
Pedagogy is Coming Back! Some Hopeful Signs for Sustainable General Education...

religious university and an intermediate organization for this particular denominational education, P4) a teacher working in so-called international bridge-classes in one of the big cities in the area of Western Holland (the metropolitan area in between Amsterdam and Rotterdam, called the Randstad), and P5) a vice-school leader of a secondary school.

My question to them was:

In respect to the article I am preparing with the title ‘Pedagogy is coming back’, I like to refer to the view of young (but also some older) people

a) working as teachers in secondary schools; they might be dealing with religious or worldview education but could also be those who teach other than religious or worldview subject matters, b) but it might also be people who are dealing with religious or worldview education from a teacher trainer or advisory perspective. Do you notice the return of pedagogy in education?

If so, what does this mean for you as a professional and as a person?

In most of the cases I had some email exchanges with them after my invitation to answer my question via email. Due to their further questions and comments I have sent them also a short outline of the article I had in mind. That turned out to be very helpful for them to provide me with some clear statements from their side.

A Hype, Return or Revitalization of the Pedagogical?

Here I will briefly present some of the insights I got from reading and analyzing their responses and will present this in five what I characterize as vignettes:

The teacher trainer/researcher (P2) had just finalized a research project with 20 RE teachers (younger and older) in secondary schools and they all state that the pedagogical in respect to certain relationally loaded practices is very important for them. They also criticize a recent plea by an associate professor in Religious Studies for a just knowledge based curriculum in RE of worldview education. However, more than half of them state that this is what they want and do but that they experience it at the same as very difficult to realize due to time constraints that have to do with pressure from the program caused by the setup of tests and the fixed finalization of programs with an eye on the final exams. The teacher trainer’s conclusion is that the teachers possess ‘the pedagogical will’ but there is a huge tension with the constraints of the general programming. These RE teachers have not been part of organized actions or initiatives in respect to what the experience as a huge tension between will versus possibilities.

As it seems in contrast with P2’s input, the input of the teacher trainer/researcher, the identity advisor (P1) who is referring to his in service courses with teachers in secondary schools (so, not focusing exclusively on RE teachers), is positive about the way educational advisors, professional teacher training centers, administrators and a few teachers – who are writing about this issue on a national level – are dealing with the return of the pedagogical debate. He is very critical on the teachers who, when dealing with personhood formation (Bildung) translate this only in socializing terms: they want students to learn to be themselves, to be social and to have and show respect, instead of the students learning to reflect on themselves with regard to their surrounding and the teachers providing the students and guiding them in finding their own way – also different from the aim the teachers have in mind. His conclusion is that in the school practice the pedagogical is not realized yet.
The teacher trainer (P3) who is mainly working in the public secondary school sector states that his students tell him that they experience the disappearance of subject matter dealing with worldview and religion. Besides, the focus on personhood formation while dealing with subject matter is under pressure in favor of a more cognitively focused approach. So, his conclusion is that there is in fact more a decrease of the pedagogical approach in respect to the students. At the level of school administrators this approach might be received positively, but he does not notice a concrete and practical translation in terms of, as he formulated it, “putting your money where your mouth is”.

The vice-school leader’s view (P5) is that the pedagogical discourse is indeed coming back in education but in disguise. Bildung is a core concept in the school’s policy and this has even led to the predicate “excellent” given by the Inspectorate of Education to the school. The school is providing a lot of learning and thus developmental possibilities for students, and learning is not just aiming at a diploma/certificate but focusing on broad edification (Bildung). Crucial is the teacher as a person and his/her normative professionality. The school is exemplifying a sort of newly invented pedagogy, with attention paid to the whole person and the human development.

The teacher of the international bridge classes (P4) is working in a school with 50 different nationalities in which 10 years ago worldview education disappeared from the curriculum. In 2011, and led by the new school leader, a process started of staff reflection on the broad identity of the school. A few values were collectively chosen and now form the basis of the school policy and the educational practices in the school. At the same time a new curriculum subject matter was chosen under the title ‘Personal Edification/Bildung’ (Persoonlijke Vorming) and presented to the lower classes only. The core aim is to reflect with the students on identity and values, and the pedagogy of this approach is characterized as meaningful education. It touches the teachers in their professionality and personality, and also the students in their sense of being and dealing with meaningful aspects of life. Other colleagues have shown curiosity in the way the pedagogy of the ‘Personal Edification’ is concretized and try to use this approach also in their own lessons where they deal with other subject matters. So, the pedagogical voice is getting greater volume. However, she also notices some constraints. At the side of the teachers these might consist of personal experiences i) with the lack of freedom in religious terms, possibly a rudiment of the past pillarized era (see Miedema, 2014a), ii) with neo-liberal no nonsense policies, and iii) with certain soft pedagogical or/and didactical novelties which have hampered their ability to teach their subject matter and which have resulted in them having developed an aversion against pedagogy. She concludes by saying that there still is a long way to go.

Concluding Remarks

Neo-liberal voices are still rather strong in education broadly speaking and have a marginalizing impact on normative pedagogies like religious, worldview, moral and civic education. But there are clear and hopeful signs that pedagogy is coming back. After I have sketched the current situation and its antecedents, I have given the floor respectively to an identity advisor from an intermediate organization for Christian education in the Netherlands for staff as well as administrators, to a teacher trainer and researcher in a teacher training institute of one of the classical Dutch universities, to a teacher trainer working in a denominational, non-religious university and an intermediate organiz-
ation for this particular denominational education, to a teacher working in international bridge classes in one of the big cities in the area of Western Holland (Randstad), and to a vice-school leader of a secondary school.

I may carefully conclude that pedagogy is back on the agenda and that a kind of revitalization is taking place. However, the five spokespersons I have introduced here briefly have different opinions about who are at the moment the most active actors for realizing the pedagogical in the educational domain. They also have different opinions on what precisely form and produce now the constraints that hinder further realization of the pedagogical in a practical, social and political sustainable way.

However, it is my contention and hope that notwithstanding the fact that I cannot present a fully harmonious choir now that this contribution will further encourage educators in general and religious, worldview, moral and civic educators in particular to go along the road for embodying and continuous strengthening the pedagogical in their distinctive practices.

Acknowledgement

The author extends special thanks to the five experts from the Netherlands who were willing to participate in the qualitative pilot. Due to the diverse contexts where they are working I could get a qualitative representative insight in the answer to the question whether there is a return of the pedagogical discourse and pedagogical approaches.

References


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Student Socioeconomic Status and Teacher Stroke: A Case of Female Students in Iran

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Abstract
Supportive teacher-student relationships play a significant role in the trajectory of students’ academic life. Teachers may use various strategies to improve this relationship, one of which is teacher stroke (teacher encouragement). The stroking behavior of teachers might be influenced by several factors, including the socioeconomic status (SES) of students. Accordingly, the current study aims to investigate the differences among female English language teachers at three different school districts (i.e., upper, middle, and lower socio-economic class) in Mashhad, Iran, with regard to their stroking behavior. To fulfill this aim, 300 eighth-grade female students responded to an 18-item questionnaire and the collected data were subsequently analyzed using a one-way ANOVA. The results revealed that teachers tend to stroke high-SES students more frequently. The second aim of this study was to find out if there is a significant correlation between teacher stroke and students’ GPA. The results indicated that all the sub-components of stroke significantly correlate with students’ GPA. Moreover, the results of a stepwise multiple regression test indicated that two of the sub-components of stroke, namely valuing and classroom activities, strongly predict students’ GPA. Finally, the findings of the study have been discussed in light of the existing literature and implications have been provided for language teaching in the formal context of education.

Keywords: English school teachers, female students, stroking behavior, student GPA, student SES, sustainability.

Introduction
There are many factors which influence the formal schooling experience of students, one of which is the quality of teacher-student relationships (Murray & Malmgren, 2005). In fact, several studies have shown that supportive teacher-student relationships make students more satisfied with school experience and create a feeling of security in the classroom environment (Baker, Grant, & Morlock, 2008; Fischer, et al., 2015). To be more precise, if teachers create a positive learning atmosphere in the class, students become more academically engaged (Marks, 2000; Williams, Edwards, Kuhel, & Lim, 2016); therefore, they are more likely to earn higher grades (Willingham, Pollack, & Lewis, 2002) and consequently, have lower drop-out rates (Croninger & Lee, 2001).
Hence, there is a relationship between teacher care and engagement on the one hand, and engagement and academic success on the other (Wentzel & Asher, 1995). Springing from this fact, several studies have been conducted in order to discover the factors which influence teacher-student interactions. Among these factors are teacher immediacy (e.g., Barclay, 2012; Mehrabian, 1967), teacher care (e.g., McBee, 2007; Mercado, 1993; O’Connor, 2008; Wentzel, 1997), teacher effectiveness (e.g., Black & Howard-Jones, 2000; Cheung, Cheng, & Pang, 2008), and emotional intelligence (Hashemi, 2008).

Another factor that can potentially have a positive impact on the quality of teacher-student relationships is ‘stroke’. Widely known as an important component of teacher care, stroke is simply defined as a unit of human recognition (Berne, 1988). In other words, the stroker (e.g., a teacher) recognizes the strokees (e.g., students) through recalling their names, respecting their opinions, maintaining eye contact, etc. Despite its significance in human beings’ social lives, stroke is infrequent and this presumably springs from a restrictive economy of stroke which inhibits people from generously stroking each other (Steiner, 1997).

Although research on stroke has been slow to emerge, the topic has recently attracted more attention from academics (e.g., Pishghadam & Khajavy, 2014; Yazdan Pour, 2015; Hosseini, 2016; Namaghi, 2016; Irajzad, Pishghadam, & Shahriari, 2017). These studies have investigated various aspects of stroke in the educational setting; however, no study has yet looked at the impact of SES on the amount of teacher stroke and the nature of teacher-student relationships. Therefore, to fill this empirical gap, the current study seeks to examine the correlation between students’ SES and teacher stroke. It is noteworthy that previous studies (e.g., Entwisle & Alexander, 1988; Hamre & Pianta, 2001; Parker, 2013) have indeed explored the impact of students’ SES on teacher-student relationships; however, this study focuses on stroke as one particular aspect of teacher-student relationships.

SES is typically broken down into three classes, namely high, middle, and low SES. In this study, the students’ SES has been determined based on their school district. As an indicator of SES, school district reflects the social and economic resources available to students (Sirin, 2005). Hence, teachers in each school district may have a particular perception of their students, which may in turn influence their stroking behaviors.

Another aim of this study was to explore the relationship between teacher stroke and students’ GPA. As mentioned earlier, positive teacher-student relationships could possibly improve the students’ GPA (Willingham et al., 2002; Murray & Malmgren, 2005). The investigation of these issues in the Iranian educational context is of particular significance and the findings may potentially lead to insightful educational implications.

Accordingly, this research is designed to address the following questions:

1. Does students’ SES have an impact on the stroking behavior of English language teachers?

2. Is there a significant correlation between students’ GPA and teacher stroke?

3. Can the sub-components of stroke strongly predict students’ GPA? If so, which sub-component best predicts students’ GPA?
Review of the Related Literature

Teacher Care and Teacher Stroke

Teaching and learning are social practices which depend heavily on emotional experiences (Hargreaves, 1994; Timostsuk, 2016). In fact, the school context creates an environment with a variety of positive/negative emotional experiences, each of which have the potential to influence learning, teaching, and motivational processes (Goldstein, 1999). According to Roffey (2012), positive feelings are pivotal for the resilience and wellbeing of students. Hence, emotions are an integral part of educational settings and providing a caring classroom environment is of great importance. One source of positive feelings in the classroom environment is teacher care. Teacher care includes teacher-initiated practices that foster strong relationships with the students (Rogers & Webb, 1991). In fact, teachers can promote positive emotions in the classroom by engaging their students in meaningful activities, providing an environment which encourages students’ participation in classroom discussions, respecting the students, and showing empathy (Weinstein, 1998; Gedzune, 2015). As asserted by Kohl (1984), teachers are obligated to care about all their students. If a teacher does not treat all students equally, biased relationships with students would take place (Gomez, Allen, & Clinton, 2004). The unequal allocation of teacher’s attention has many reasons, one of which may be the students’ socio-economic status.

Teachers have a central role in shaping a supportive relationship with students. In this way, they can boost students’ motivation and help them promote their interpersonal skills (Pierson, 2003). Teacher-student relationships could be examined using Transactional Analysis (TA) theory proposed by Berne (1988). Stewart and Joines (1987) defined TA as a “theory of personality and systematic psychotherapy for personal growth and personal change” (p. 3). Transactional Analysis theory consists of six basic components, including ego states, life positions, life scenario, transactions, time structures, and strokes (Berne, 1988). This theory has been broadly applied in psychology, counseling, communication, and education (Solomon, 2003). With regard to education, TA theory provides a solid basis for perceiving the links between human behaviors, education, and learning (Barrow & Newton, 2015). High awareness of the TA theory may also bring about a supportive relationship between teachers and learners (Stewart & Joines, 1987). Furthermore, its application in educational settings would lead to positive changes in the education process and result in a more natural learning process (Stuart & Alger, 2011). Therefore, due to its significance, several scholars have investigated the benefits of using TA in the classroom context in particular and the school as a whole (e.g., Barrow, Bradshaw, & Newton, 2001; Hellaby, 2004).

The concept of stroke is one of the six components of TA theory and a major component of teacher care (Pishghadam, Naji Meidani, & Khajavy, 2015), and it is defined as any action to recognize the presence of others (Shirai, 2006). According to Berne (1988), providing people with strokes satisfies their need for recognition. Different categories of stroke are verbal/non-verbal, positive/negative, and/or conditional/unconditional (Stewart & Joines, 1987). Verbal strokes (e.g., saying hi) deal with an exchange of spoken words, whereas non-verbal strokes involve actions such as waving and nodding; positive strokes (e.g., you look great) give the feeling of satisfaction to the addressee, while negative strokes (e.g., I hate you) make the addressee feel displeased; conditional strokes (e.g., you are/are not a good actor) are about what we do, and unconditional strokes (e.g., I love you; I hate you) are about what we are (Stewart & Joines, 1987).
According to Francis and Woodcock (1996), motivating others may be achieved either by positive reinforcement or negative reinforcement. The former type of reinforcement refers to strokes which aim to highlight positive behavior and the latter refers to providing negative strokes to encourage better performance and minimize errors. From this perspective, motivation and stroke are closely connected. Since stroking rewards the behavior being stroked, that specific behavior would likely be reinforced (Stewart & Joines, 1987). Therefore, stroke is also related to the concept of feedback. As suggested by Hattie and Timperley (2007), the kind of feedback that provides evaluation (either positive or negative) directed at the students is closely related to stroke.

Recently, scholars have looked at stroke from several perspectives and examined its relationship with different educational factors. More specifically, Pishghadam and Khajavy (2014) found a significant positive relationship between stroke and student motivation. In another study, Yazdan Pour (2015) validated a teacher stroke scale and investigated the relationship between stroke and teacher burnout. The findings of this study indicated a negative correlation between stroke and teacher burnout.

In the same vein, Namaghi (2016) investigated the impact of teacher stroke on the willingness of students to attend school and found that two of the sub-components of stroke (i.e., nonverbal and valuing) are of particular significance in this regard. In an attempt to explore English language teachers’ conceptions of stroke, Hosseini (2016) conducted a qualitative study, the findings of which suggested that teachers are aware of different types of stroke, but do not know how to stroke freely and appropriately. In a recent study, Irajzad, et al. (2017) conducted a mixed-methods study which investigated the differences among English, Persian, and Arabic school teachers in Iran with regard to their stroking behaviors.

**Socioeconomic Status (SES)**

Socioeconomic status is the most frequently-used contextual variable in educational research (Sirin, 2005). To measure SES, a number of factors have to be determined. The bulk of research on this topic has shown that the most common factors indicating SES are income, education, and occupation (Brooks-Gunn & Duncan, 1997; Milne & Plourde, 2006; Sirin, 2005). It is noteworthy that SES can also be determined by factors such as school location and students’ characteristics (Sirin, 2005).

In this regard, researchers need to decide whether to use an individual student’s SES or an aggregated SES based on the neighborhood in which they reside (Brooks-Gunn & Duncan, 1997) or their school district (Caldas & Bankston, 1997). According to Sirin (2005), school and neighborhood SES indicators share the underlying meaning of SES as a contextual indicator of social and economic well-being. Therefore, school district is closely linked to the social and economic condition of students (Sirin, 2005). The National Assessment of Educational Progress (NAEP) reported that the academic achievement of students in rich suburban schools was significantly higher than the students in poor urban schools (U.S. Department of Education, 2000). In fact, low SES is highly correlated with low academic achievement (Milne & Plourde, 2006). Therefore, in order to help low-SES students achieve higher academic potentials; teachers’ role is of paramount significance (Gustafson, 2002).
Methodology

Participants

The participants of this study consisted of 300 eighth-grade female students at six high schools located in the upper-class, middle-class, and lower-class school districts of Mashhad, Iran. Three schools were selected from each district. The criterion for dividing Mashhad into three socio-economic classes was based on the guidelines provided by the Education Department of Khorasan-e-Razavi. The researchers asked the Department of Education for permission to collect data from schools located in three districts of Mashhad. The Department of Education recommended district five (low-class), district seven (middle-class), and district three (upper-class). Since the education department only allowed access to a limited number of schools, convenience sampling was used.

Instrumentation

To evaluate teacher stroke, the Student Stroke Scale (SSS) was used. This scale has been constructed and validated by Pishghadam and Khajavi (2014). Since statistical procedures have confirmed the validity of SSS as a measure of stroke, it can be used in all educational settings. The SSS consists of 18 items which are designed to assess verbal, non-verbal, positive, and negative strokes on a five-point Likert-type scale ranging from 1 (never) to 5 (always). The reliability of the whole set of items is 0.86.

The items of this scale are categorized under four sub-components, namely verbal, non-verbal, valuing, and classroom activities. For better illustration, the sub-components and their corresponding items have been presented in Table 1.

Table 1
The Subcomponents of Stroke and Their Corresponding Items

<table>
<thead>
<tr>
<th>Questionnaire Items</th>
<th>Components of stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verbal</td>
</tr>
<tr>
<td>1-Teacher knows my name. *</td>
<td></td>
</tr>
<tr>
<td>2-Teacher mentions my name in the classroom. *</td>
<td></td>
</tr>
<tr>
<td>3-Teacher encourages me. *</td>
<td></td>
</tr>
<tr>
<td>4-Teacher blames me. *</td>
<td></td>
</tr>
<tr>
<td>5-Teacher compliments me in front of the others. *</td>
<td></td>
</tr>
<tr>
<td>6-Teacher asks me questions. *</td>
<td></td>
</tr>
<tr>
<td>7-Teacher smiles at me in the classroom. *</td>
<td>*</td>
</tr>
<tr>
<td>8-Teacher frowns at me. *</td>
<td>*</td>
</tr>
<tr>
<td>9-Teacher looks at me. *</td>
<td>*</td>
</tr>
<tr>
<td>10-Teacher pays attention to me. *</td>
<td>*</td>
</tr>
<tr>
<td>11-Teacher devotes enough time to me outside the classroom. *</td>
<td>*</td>
</tr>
<tr>
<td>12-Teacher devotes enough time to me in the classroom. *</td>
<td></td>
</tr>
<tr>
<td>13-Teacher uses my personal experience in the classroom. *</td>
<td></td>
</tr>
</tbody>
</table>

Sequel to Table 1 see on the next page.
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14-Teacher uses my scientific knowledge in the classroom.

15-Teacher pays attention to my homework.

16-Teacher uses me for doing the exercises.

17-Teacher uses me in class discussions.

18-Teacher lets me ask questions.

Procedure

After going through the administrative process for choosing three school districts, the researchers started the process of data collection. The first step was to obtain the consent of teachers for distributing the questionnaires in their classes. Before handing out the questionnaires, the students were told not to write their names on the questionnaire sheets.

In order to analyze the questionnaire data and address the research questions, a number of statistical tests including the Pearson correlation test, stepwise multiple regression, and one-way ANOVA were used.

Results

In order to address the first research question, one-way between-groups ANOVA was conducted. The descriptive statistics displayed in Table 2 provide the information required for the analysis of all the dependent variables across three levels.

Table 2
Descriptive Statistics for the Dependent Variables across the Three Levels

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>nonverbal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper</td>
<td>100</td>
<td>3.37</td>
<td>.55</td>
<td>.05</td>
<td>2.00</td>
<td>4.75</td>
</tr>
<tr>
<td>mid</td>
<td>100</td>
<td>3.10</td>
<td>.68</td>
<td>.06</td>
<td>1.50</td>
<td>4.25</td>
</tr>
<tr>
<td>lower</td>
<td>100</td>
<td>3.09</td>
<td>.55</td>
<td>.05</td>
<td>1.75</td>
<td>4.50</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>3.18</td>
<td>.61</td>
<td>.03</td>
<td>1.50</td>
<td>4.75</td>
</tr>
<tr>
<td>verbal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper</td>
<td>100</td>
<td>3.30</td>
<td>.64</td>
<td>.06</td>
<td>1.33</td>
<td>4.33</td>
</tr>
<tr>
<td>mid</td>
<td>100</td>
<td>3.01</td>
<td>.82</td>
<td>.08</td>
<td>1.33</td>
<td>4.67</td>
</tr>
<tr>
<td>lower</td>
<td>100</td>
<td>3.25</td>
<td>.65</td>
<td>.06</td>
<td>1.67</td>
<td>5.00</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>3.19</td>
<td>.72</td>
<td>.04</td>
<td>1.33</td>
<td>5.00</td>
</tr>
<tr>
<td>classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper</td>
<td>100</td>
<td>4.19</td>
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<td>.08</td>
<td>1.50</td>
<td>5.00</td>
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<td>.05</td>
<td>1.50</td>
<td>5.00</td>
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<td></td>
<td></td>
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<tr>
<td>upper</td>
<td>100</td>
<td>3.20</td>
<td>.98</td>
<td>.09</td>
<td>1.00</td>
<td>5.00</td>
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<tr>
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<td>1.07</td>
<td>.10</td>
<td>1.00</td>
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<tr>
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<td>2.94</td>
<td>1.04</td>
<td>.06</td>
<td>1.00</td>
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Sequel to Table 1 see on the next page.
The results of Levene’s test reveal that except for valuing and total variables, the significance value of the three other dependent variables violated the assumption of homogeneity of variances. Therefore, the Welch test was used as an alternative statistical solution for the first, second and third dependent variables, whereas one-way ANOVA was employed for the other variables.

**Welch Test**

Based on the results of the Welch test, there are significant differences among the three groups of teachers in terms of nonverbal $F(2, 196.294) = 7.526, p < 0.05$, verbal $F(2, 195.979) = 3.908, p < 0.05$, and classroom $F(2, 196.754) = 6.061, p < 0.05$ strokes.

**ANOVA**

The results of the ANOVA test indicated a significant difference among the three groups of teachers in terms of valuing ($F(2, 297) = 5.620, p < 0.05, \eta^2 = .03$) and total ($F(2, 297) = 7.435, p < .05, \eta^2 = .04$) strokes. Having found statistically significant differences, a post hoc test had to be conducted to determine which subgroup means differ from the others.

**Post hoc Tests**

The Games-Howell post hoc test was conducted for the dependent variables with unequal variances (namely nonverbal, verbal, and classroom) and Tukey post hoc test was used for the other dependent variables (i.e., valuing and total).

**Games-Howell Test**

As for nonverbal stroke, the results indicated that the mean score for teachers of upper-class schools ($\bar{x} = 3.3700, SD = .55673$) is significantly different from that of middle-class schools ($\bar{x} = 3.1025, SD = .68819$) and lower-class schools ($\bar{x} = 3.0925, SD = .55352$). However, teachers of middle-class and lower-class schools do not differ significantly in this regard (To summarize: upper > lower/mid).

With regard to verbal stroke, the results revealed that the mean score for teachers of upper-class schools ($\bar{x} = 3.3000, SD = .64571$) is significantly different from that of middle-class schools ($\bar{x} = 3.0167, SD = .82555$). However, the mean score for teachers of upper-class schools is not significantly different from that of lower-class schools ($\bar{x} = 3.2533, SD = .65968$). Additionally, the mean scores for teachers of middle-class schools and lower-class schools do not differ significantly (To summarize: upper > mid).

With regard to classroom stroke, the results indicated that the mean score for teachers of upper-class schools ($\bar{x} = 4.1975, SD = .81130$) is significantly different from...
that of middle-class schools ($\bar{x} = 3.8000, SD = .97247$). Also, the mean score for teachers of middle-class schools is significantly different from that of lower-class schools ($\bar{x} = 4.1900, SD = .81194$). However, teachers of upper-class schools and lower-class schools did not differ significantly (To summarize: upper/lower > mid).

**Tukey HSD Test**

The findings of this study with regard to the valuing stroke indicated that the mean score for teachers of upper-class schools ($\bar{x} = 3.2000, SD = .98088$) is significantly different from that of middle-class schools ($\bar{x} = 2.7125, SD = 1.04045$). However, the mean score for teachers of upper-class schools is not significantly different from that of teachers in lower-class schools ($\bar{x} = 2.9200, SD = 1.07243$). Also, the mean scores for teachers of middle-class schools and lower-class schools do not differ significantly (To summarize: upper > mid).

As for the total stroke variable, the results indicated that the mean score for teachers of upper-class schools ($\bar{x} = 3.4928, SD = .60171$) is significantly different from the teachers of middle-class schools ($\bar{x} = 3.1422, SD = .72014$). However, the mean score for teachers of upper-class schools is not significantly different from that of lower-class schools ($\bar{x} = 3.3517, SD = .61211$). Also, the mean scores for teachers of middle-class schools and lower-class schools do not differ significantly (To summarize: upper > mid).

**Correlation**

As for the second research question, the results revealed that all the sub-components of stroke (nonverbal $r = .148, p < 0.05$; verbal $r = .194, p < 0.05$; classroom activities $r = .238, p < 0.05$; valuing $r = .253, p < 0.05$) and total stroke ($r = .258, p < 0.05$) are significantly correlated with GPA. This implies that receiving strokes significantly influences students’ GPA.

**Stepwise Multiple Regression**

Based on the results of stepwise multiple regression test, only valuing and classroom variables passed the entry test of an $F$ with an associated probability level of .05; hence, these two variables were included in the analysis.

**Table 3**

*Model Summary of Regression Analysis for GPA*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>B</th>
</tr>
</thead>
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<td>.062</td>
<td>1.35107</td>
<td>.253</td>
</tr>
<tr>
<td>2</td>
<td>.274b</td>
<td>.071</td>
<td>1.34451</td>
<td>.172(valuing)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.133(class)</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), valuing  
b. Predictors: (Constant), valuing, classroom

According to the model summary, the regression equation is significant in the first model ($F (1, 498) = 34.158, p < .05$). Hence, the valuing variable accounts for 6% of the
total GPA variance (Adjusted $R^2 = .062$). Also, Beta coefficients show that the relationship between valuing and GPA is positive and significant ($B = .253$, $p < .05$).

In the second model, the regression equation is significant, $F (1, 498) = 5.869$, $p < .05$. This indicates that the first and second variables (i.e., valuing and classroom) account for 7% of the variance of GPA. Moreover, Beta coefficients reveal that there is a significant positive correlation between valuing stroke and GPA ($B = .172$, $p < .05$), and the relationship between classroom stroke and GPA is also positive ($B = .133$, $p < .05$). In other words, valuing and classroom strokes are the best predictors of the students’ GPA.

**Discussion**

With regard to the first research question, the results indicate that in three of the four sub-components of stroke (i.e., nonverbal, verbal, and valuing), the English teachers of upper-class schools ranked first. This finding is consistent with the findings of Entwisle and Alexander (1988) and Hamre and Pianta (2001) who have also reported that students with high SES enjoy more supportive relationships with their teachers. According to Parker (2013), students’ SES may have a direct impact on their relationships with teachers. There are some lines of explanation for this finding.

Parents’ involvement in the education process of their children positively influences the teacher-student relationship (Patrikakou, 2008; Kazlauskiene, Gaucaite, & Juodaityte, 2011). As several scholars have noted (e.g., Entwisle & Alexander, 1988; Hamre & Pianta, 2001), close parent-teacher relationships appear to be more common among families with higher SES. Indeed, parental involvement is a positive source of influence for the academic achievement of students and it has a critical role in the children’s academic motivation and engagement (Reynolds, 1991). Examples of parental involvement behavior include providing financial aids to the school, volunteering in school events, communicating with the teacher, attending school gatherings, and monitoring their child’s experiences at school (Hughes & Kwok, 2007). Since these parents devote a lot of time and energy to their child’s education, they have higher expectations from the school staff, mainly teachers, to provide better educational services for their children. Therefore, high-SES pupils do better at school because parents and school staff put more effort into their education. Also, the positive influence of parents on school events and other decision-making activities raises the self-confidence of their children who would then find the courage to be more active in the classroom; as a result, teachers stroke these students more frequently. Furthermore, teachers’ perceptions of parents and their children will be influenced by the parents’ level of education, job, etc. (Patrikakou, 2008). Consequently, teachers may have more positive attitudes toward students with educated and affluent parents.

Another factor which influences the stroking behavior of teachers is the cultural capital of high-SES students. Dumais (2002) argued that within the educational field, the most valuable form of capital is cultural capital which depends largely on one’s social class (Dumais, 2002). In fact, cultural capital is “a broad knowledge of culture that belongs to members of the upper classes and is found much less frequently among the lower classes” (Dumais, 2002, p. 44). Coming from upper-class families, high-SES students have been exposed to different realizations of cultural capital since their childhood. As a result, they feel more comfortable in school and communicate more easily with their
teachers (De Graaf, De Graaf, & Kraaykamp, 2000). It is worth mentioning that cultural capital serves as a signal to teachers (who probably have a high respect for culture) that they will establish better relationships with these students (DiMaggio, 1982).

Classroom features (e.g., educational facilities, class size) is another factor affecting teacher stroke. As a matter of fact, schools in rich neighborhoods have better facilities and less crowded classes. Therefore, teachers at these schools can pay more attention to students and establish better relationships with them. A study conducted by Blatchford (2003) revealed that students in less crowded classes are more often the focus of teacher’s attention, whereas students in crowded classes seem to have a passive role. According to what has been stated so far, students with high SES have better chances of receiving strokes from their teachers. Also, teachers at upper-class schools are more likely to establish positive relationships with the students.

Regarding classroom activities, the results of this study indicated that teachers of upper-class schools share the first rank with teachers of lower-class schools, while teachers of middle-class schools ranked lower, a finding which implies that students of upper and lower-class schools are more involved in classroom activities.

The previously-mentioned factors explain why students with high SES are more likely to receive strokes from their teachers.

Low-SES students lack access to most of the resources, experiences and learning materials available to students in upper-class schools (Brooks-Gunn & Duncan, 1997). More specifically, they are less likely to travel, attend English classes, or experience activities that enhance their skills. Due to the lack of access to such cultural resources, low-SES students “find the school environment different from their home environment and lack the capital [cultural capital] necessary to fit in as well as the higher-SES students” (Dumais, 2002, p.46); therefore, these students often lag behind academically. Moreover, low-SES parents do not often participate in school activities and have less positive interactions with teachers (Boethel, 2003). In most cases, low-SES parents do not even know the name of their child’s teacher (Jensen, 2009). These students have lower expectations as well as lower intrinsic motivation (Caldwell & Ginther, 1996). As a result, they are usually less engaged in classroom activities.

Considering all these factors, low-SES students experience high levels of foreign language (FL) anxiety in the classroom. In such a situation, a motivating factor must exist; otherwise, they will be completely burned out. In their 1996 study, Caldwell and Ginther introduced a number of variables affecting the academic achievement of low-SES students, one of which was teacher motivation. As Love, Stiles, Mundry and Diranna (2008) argue, the learning of every child is the shared responsibility of teachers and parents. Rather than feeling detached, students should feel a sense of belonging to the classroom environment. In this regard, teachers are influential agents who can alter students’ perceptions of their own abilities. Therefore, in the current study, teachers might have felt this responsibility and involved low-SES students in classroom activities to raise their motivation.

Regarding the second research question, it was found that all the sub-components of stroke are significantly associated with GPA. This finding is consistent with Wentzel (1998) who indicated that supportive teacher-student relationships are related to multiple aspects of school motivation, including GPA. This is also consistent with the findings of Christophel (1990) which indicated a positive correlation between teacher attention and student achievement.
With regard to the third research question, the findings reveal that valuing and classroom activities strongly predict students’ GPA in the context of Iranian schools. According to Badawy (1980), Middle Easterners can be classified as having collectivistic cultures. In a collective society, people value teamwork and collaboration and are less likely to act independently or allow themselves to stand out from the others (Rohm, 2010). Also, Kramer (1989) claimed that collective cultures may be characterized by centralized decision-making which may lead to expectations of more assertive and less accommodative behaviors toward subordinates. In fact, in a context in which all values are based on selflessness, valuing the students seems to be meaningless.

Due to cultural differences, strokes have unequal weights in different societies. For instance, calling students by their first names may be a weak stroke in American culture, but a strong one in the Iranian context. Having grown up in a collectivist society, Iranian students may not expect their teachers to devote enough time to them inside or outside the classroom, or to use their personal experiences and knowledge in the classroom. Hence, valuing is a weighted stroke in Iran. To be valued in such a context raises students’ motivation and consequently, enhances their engagement in classroom activities. Toshalis and Nakkula (2012) believe that students’ psychological connection to the school environment and their teachers affects their motivation levels and participatory behaviors. They also claim that feeling welcomed, included, and valued may have a profound effect on students’ motivation and engagement in classroom activities and therefore enhance their efforts to accomplish greater achievements. Thus, valuing brings with itself motivation and also engagement in classroom activities.

Conclusion

This study sought to examine the impact of students’ SES on the stroking behavior of English teachers. As the findings suggest, high-SES students are the major strokees of English teachers, while students with mid or low SES do not receive much attention. Since providing strokes positively influences students’ GPA, teachers should be more emotionally involved with mid and low-SES students. As the results display, two of the sub-components of stroke, namely valuing and classroom activities, are the main predictors of students’ GPA; therefore, they should receive more emphasis in teacher-student interactions.

Considering the close link between students’ SES and teacher stroke, school managers and policy makers should employ certain educational policies as well as teacher standards to provide equal educational opportunities for all the students, regardless of their socioeconomic status.

The findings of this study contribute to the current literature on teacher education and serve as a basis for future research into teacher-student relationships. The current study only investigated the stroking behaviors of eighth-grade female English teachers in Mashhad, Iran. Future studies are recommended to explore the impact of students’ SES on the stroking behavior of both female and male teachers of different subjects at different educational levels. Also, in order to make the findings more generalizable, future research may include larger samples of students from more school districts.
References


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