DEMOCRATIC ASPECTS OF LEARNING AND TEACHING, AS PERCEIVED BY PRESERVICE TEACHERS FACE-TO-FACE, BLENDED, AND VIRTUAL

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ABSTRACT

The assimilation of democratic principles in learning and teaching engages learners in a challenging process that encourages innovation and initiative, cultivates their personal qualities, and allows them to acquire new methods, skills, and abilities. The aim of the present study was to examine whether and how democratic principles are reflected in learning and teaching in face-to-face, blended, and virtual learning, as perceived by preservice teachers in the final stages of their training. This is a quantitative study based on a sample of 360 preservice teachers studying at academic institutions in Israel. The findings show significant difference in the desired situation, as perceived by preservice teachers, between their schools and higher education institutions in relation to several principles, such as the learner’s choice of options and their exposure to digital libraries and information centers. The implications for practice or policy are that: (a) there are principles that are reflected more in higher education than in schools; (b) I found a significant difference between the two learning environments; (c) I found a significant difference in the desired condition between stages; and (d) I recommend encouraging the practice of applying democratic principles.

Keywords: information and communication technology (ICT), lifelong learning, teaching/learning strategies, preservice teachers' education, 21st century skills, social emotional learning (SEL), quantitative study

INTRODUCTION

Democratic principles in learning and teaching help provide challenging learning environments for students in order to encourage student innovation and initiative, cultivate students’ personality traits, and allow them to acquire the necessary approaches, skills, and competencies (Cochran-Smith et al., 2018; O’Neill, 2002; Sahlberg 2010; Scott, 2016). These include the development of thinking skills in various fields such as democratic civil literacy; guidance for developing the ability to understand processes, values, dilemmas, and conflicting rights; sharing, cooperating, and social involvement; and digital literacy skills that are required to perform tasks and solve problems in digital environments and in global and local contexts that are characterized by multicultural, face-to-face, blended, and virtual work environments. They also involve the ability to choose a suitable medium from the wide variety available and the skills to use hardware, software, and digital communication tools for different needs. (Ertmer & Ottenbreit-Leftwich, 2010; Zilka, 2017a, 2017b, 2020c).

The digital environment has led to the dissolution of the boundaries of time and space and serves learners as an intellectual partner in the construction of knowledge, in the processing and presentation of knowledge, and in the activation
of metacognitive reflective processes, processes of self-direction, cognitive processes, and emotional and differential processes (Christensen et al., 2008; Voogt & Pelgrum, 2005), as well as in the development of social and emotional skills. It fosters self-awareness, social adaptability in a changing reality, sharing skills, inclusion, self-acceptance and the acceptance of others, and the preservation of privacy. It encourages the development of emotional attitudes and skills, and focuses on social, cross-cultural and global skills, collaborations and partnerships, personal and social development, development of self and social leadership, multiculturalism, protected environment, the equality of opportunity, and the reduction of gaps (Bell, 2010; Brush & Saye, 2014; De Pinho, Mota et al., 2015). Researchers claim that it is expected that democratic principles in learning are to be applied across all populations involved in education: principals, teachers, students, and teacher training faculty (Bell, 2010; Brush & Saye, 2014; De Pinho et al., 2015).

This study examined whether and how democratic principles are reflected in learning and teaching in face-to-face, blended, and virtual learning, as perceived by preservice teachers in the final stages of their training and during their actual student teaching experience in schools.

DEMOCRATIC PRINCIPLES IN LEARNING AND TEACHING

Key concepts in the application of democratic principles in learning and teaching are: assisting in the development of the authentic personality based on values; promoting personal value-based calling in an ever-changing world; developing the responsibility and commitment of the learners to their learning; developing skills for choosing between options, texts, and tasks; developing reflective and social-emotional learning (SEL); practicing active research learning; using digital libraries, learning centers, and information centers; cooperating between learners and the thinking community; dialoging between teachers and students and among students; addressing differences between learners; establishing equal opportunities and reducing gaps between learners (Cochran-Smith et al., 2018); learning and teaching in face-to-face, blended, and virtual learning environments; and understanding and being understood in a local and global multicultural work environment (Cochran-Smith et al., 2018; O’Neill, 2002; Sahlberg, 2010; Scott, 2016).

To implement democratic principles in learning and teaching, an organizational environment is needed to enable the application of these principles as a way of life for learners and teachers—an organizational framework for learning, for mental well-being, and for learners’ involvement in the community. This needs to be a flexible framework that allows for diversity in teaching and learning methods for multiple pedagogical approaches in a variety of digital environments (Au, 2016; Horizon Report, 2017).

Principle of Personality and of Sharing in Learning and Teaching

The principle of personality. Education is individually tailored to learners, their needs and aspirations, which means the application of the principle of personality across all populations involved in education—principals, teachers, students, and teacher training faculty. It also means encouraging the development of an authentic personal identity rooted in values, and personal calling rooted in values in a changing world. It involves learning, and learning to teach, in a personalized way in a learning environment that is rich in illustrations and in digital environments, learning from personal experience, and learning through experiential practices. It involves cultivating a sense of resilience, empathy, self-efficacy, and cultivating evolving thinking patterns, a growth mindset, decision-making ability, self-awareness, self-management, social awareness, interaction management, and acceptance of responsibility. Researchers claim that Social Emotional Learning (SEL) involves the promotion and application of social and emotional skills in developmentally and culturally appropriate ways for students, based on the understanding that emotional and social difficulties affect the students’ well-being, academic achievement, and general mood (Husaj, 2016; Maurice & Harriett, 2006; Zilka, 2015, 2017b). The researchers divide the objectives of SEL into five sets of skills and claim that they are interdependent: self-awareness, self-management, social awareness, interaction management, and acceptance of responsibility (Beauchamp, 2015; Farr, 2010; Husaj, 2016; Liu, 2015; Maurice &

The principle of sharing and collaboration in education. Collaboration is a process in which two or more people work together in a way that strengthens their ability to achieve a common goal. Vygotsky (Vygotsky & Luria, 1994) wrote that the contribution of the individual to the group and the contribution of the group to the individual in the learning process are connected to each other in a spiral way. Individuals “bring” their knowledge to the group, the learning process takes place through interactions, and it makes the learners understand and shape their “knowledge” again as a result of the interaction between group members. Researchers define collaborative learning as creating a space for collaborative, learning, free discourse (Baker, 2010; Engstrom et al., 2008; Splitter, 2009). Collaborative discourse enriches the individual and group learning processes.

The teacher should allow situations that encourage collaboration between students. In the event of a conflict between group members, the teacher must assist them in negotiating and reaching an agreed solution (Salman, 2006). The teacher must demonstrate active participation in the discourse in order to encourage students to participate actively (Sharan, 2014). Collaborating students can enrich their world of knowledge by sharing their unique perspectives, ideas, and personal experiences, where the process of sharing creates a deep understanding in them. In addition, the perspectives of others lead to a deeper understanding of the study material (Ascough, 2007; Engstrom et al., 2008). A teacher who encourages the creation of a learning community promotes communication between students and thus leads to meaningful learning.

A successful learning community is characterized by two main traits: a social parameter indicating active community involvement and a learning parameter reflecting the content taught (Liu et al., 2007; Rovai & Downey, 2010). Researchers found that students who are actively involved in a learning community and are assigned meaningful tasks are likely to develop a sense of belonging as opposed to one of alienation and isolation, and to persevere and succeed in learning tasks (Liu et al., 2007; Meyers, 2008; Pittman & Richmond, 2008; Rovai, 2007; Robinson & Hullinger, 2008; Young & Bruce, 2011). Researchers found that the unique characteristics of a learning community are likely to create in students a sense of self-empowerment that leads to empowerment in the learning process and enriches their lives (Feldman, 2007; Jelfs et al., 2009; Lawrence & Sankey, 2008; Lee, 2008; Oliver et al., 2009). A learning environment enables a dynamic process in which students feel confident to be active participants (Pelz, 2004; Splitter, 2009).

PRESENT RESEARCH

The aim of the present study was to examine whether and how democratic principles are reflected in learning and teaching in face-to-face, blended, and virtual learning environments, as perceived by preservice teachers in the final stages of their training and during their actual student teaching experience in schools.

The democratic principles examined in this study are:

- Learners’ commitment to their learning.
- Learners’ choice of options, texts, and assignments.
- Development of reflective skills.
- Development of social emotional skills.
- Active inquiry-based learning.
- Digital libraries, learning centers, and information centers available to learners.
- Cooperation between learners and the thinking community.
- Dialogue between the teachers and learners and between learners themselves.
- Addressing differences between learners.
- Combining face-to-face, blended, and virtual learning environments.

METHOD

This is a quantitative study. The data were collected in 2019. Informed consent was obtained from all participants included in the study. The study received approval from the institutional review board (IRB) of the Academic College.

Sample

The sample included 360 preservice teachers studying at academic institutions for teacher training in Israel and 78% of the participants were women, 22% men; 54% were aged 20–30, 38% aged 30–40, the rest aged 40 and over.
The preservice teachers who participated in the study were in the process of studying toward a teaching certificate. All participants had a bachelor’s degree, and some a master’s degree (29%) and a PhD (16%). The preservice teachers participated in the study voluntarily.

Research Tools

Demographic questionnaire

The questionnaire for this study relied on previous questionnaires (Cochran-Smith et al., 2018; Zilka, 2019a, 2020b). The questionnaire structure included school/higher education; existing condition/desired condition; and learning environment: face-to-face/blended/virtual. The questionnaire was administered under different headings to allow us to compare the various parameters of the questionnaire. The participants were asked to rate their agreement with each statement on a 5-point scale, ranging from 1 = Not at all to 5 = To a great extent.

The following headings appeared in the questionnaires:

• Existing situation: To what extent are the following statements reflected in face-to-face learning, in school and in higher education?
• Existing situation: To what extent are the following statements expressed in a blended course (face-to-face and work on the course website), in school and in higher education?
• Existing situation: To what extent are the following statements reflected in virtual learning in school and in higher education?
• Desirable situation: To what extent is it desirable that the statements below become an integral part of the studies in school and in higher education?

The statements that appeared in the questionnaires:

• Learners’ commitment to their learning.
• Learners’ choice of options/texts/assignments.
• Development of reflective skills.
• Development of social emotional skills.
• Active inquiry-based learning.
• Digital libraries/learning centers/information centers available to the learners.
• Cooperation between learners/the thinking community.
• Dialogue between the teachers and learners and between learners themselves.
• Addressing differences between learners.
• Combining face-to-face, blended, and virtual learning environments.

Statistical analysis

Averages were calculated for all the statements (with the average closer to 5 indicating stronger identification with the statement) in order to examine differences in identification with the various statements by institution (school or higher education) and mode of study (face-to-face, blended, or virtual). We conducted a mixed bidirectional variance analysis. The type of analysis performed was intended to take into account the dependence between the responses to the various statements, as the same preservice teachers answered several statements. We conducted a post hoc comparison between pairs of types of learning, with correction for multiple comparisons of the studentized maximum modulus type, and we performed a simple analysis of averages to find a source for the significance of the interaction. We conducted a comparison of the desired situation in school versus higher education by a paired t-test for continuous values and a McNamer test for proportions. The analysis was performed in SAS version 9.4 for Windows. P < .05 was considered statistically significant.

Research Process

The study involved preservice teachers who learned as part of their studies about democratic principles in learning and teaching. Preservice teachers had student teaching experiences in elementary and high schools, and they also observed lessons conducted by in-service teachers. Preservice teachers were asked to observe and identify democratic principles in learning and teaching, completed observation sheets, and recorded their feelings and impressions. At the end of the course, preservice teachers were asked to address the statements that appeared in the closed questionnaire, and to express a position regarding the extent and the manner in which democratic principles are reflected in the learning and teaching processes.
FINDINGS

The findings are presented in the following order: First, the results of the two-way analysis of differences in preservice teachers’ perceptions of teaching with respect to the educational institution (school and higher education) and learning environment (face-to-face, blended, and virtual), as expressed in the various statements (Table 1). Next, descriptive statistics of the “desirable situation” in schools and higher education are presented with a comparison of where the desired situation is more important from the point of view of preservice teachers (Table 2).

Current Situation

Table 1 shows the results of two-way variance analysis that examined the differences in preservice teachers’ perceptions of teaching, with respect to educational institution (school and higher education) and learning environment (face-to-face, blended, and virtual), as expressed in the various statements (Table 1). Next, descriptive statistics of the “desirable situation” in schools and higher education are presented with a comparison of where the desired situation is more important from the point of view of preservice teachers (Table 2).

<table>
<thead>
<tr>
<th>Statement #</th>
<th>Description</th>
<th>Face-to-face</th>
<th>Blended</th>
<th>Virtual</th>
<th>Total</th>
<th>Institution</th>
<th>Environment</th>
<th>Institution’s learning environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Commitment of learners to their learning process</td>
<td>School 3.57 3.66 2.82 3.35</td>
<td>Higher education 4.13 4.00 3.66 3.93</td>
<td>Total 3.85 3.83 3.24</td>
<td>F(1,1367)=203.52***</td>
<td>F(2,1367)=98.63</td>
<td>F(2,1367)=12.53***</td>
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</tr>
<tr>
<td>2</td>
<td>Learners’ choice between options/texts/assignments</td>
<td>School 2.87 3.28 2.74 2.96</td>
<td>Higher education 3.14 3.34 2.92 3.13</td>
<td>Total 3.00 3.31 2.83</td>
<td>F(1,1367)=14.76</td>
<td>F(2,1367)=40.47***</td>
<td>F(2,1367)=1.74</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Development of reflective skills</td>
<td>School 3.23 3.44 2.66 3.11</td>
<td>Higher education 3.83 3.60 3.06 3.50</td>
<td>Total 3.53 3.52 2.86</td>
<td>F(1,1363)=88.527***</td>
<td>F(2,1363)=116.69***</td>
<td>F(2,1363)=9.32 ***</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Development of social emotional skills</td>
<td>School 3.23 3.44 2.66 3.11</td>
<td>Higher education 3.83 3.60 3.06 3.50</td>
<td>Total 3.53 3.52 2.86</td>
<td>F(1,1363)=88.527***</td>
<td>F(2,1363)=116.69***</td>
<td>F(2,1363)=9.32 ***</td>
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<tr>
<td>5</td>
<td>Inquiry-based learning</td>
<td>School 3.23 3.44 2.66 3.11</td>
<td>Higher education 3.83 3.60 3.06 3.50</td>
<td>Total 3.53 3.52 2.86</td>
<td>F(1,1363)=88.527***</td>
<td>F(2,1363)=116.69***</td>
<td>F(2,1363)=9.32 ***</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Digital libraries/learning centers/information centers are available to learner</td>
<td>School 3.09 3.74 3.48 3.44</td>
<td>Higher education 4.09 4.17 4.04 4.10</td>
<td>Total 3.59 3.95 3.76</td>
<td>F(1,1363)=257.86***</td>
<td>F(2,1363)=25.78 ***</td>
<td>F(2,1363)=17.88 ***</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Cooperation between learners/thinking community</td>
<td>School 3.41 3.57 2.88 3.29</td>
<td>Higher education 3.64 3.72 3.26 3.54</td>
<td>Total 3.52 3.64 3.07</td>
<td>F(1,1361)=35.10***</td>
<td>F(2,1361)=69.05 ***</td>
<td>F(2,1361)=2.47</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Dialogue between the teacher and learners and between learners</td>
<td>School 4.03 3.60 2.67 3.43</td>
<td>Higher education 3.71 3.64 2.85 3.40</td>
<td>Total 3.87 3.62 2.76</td>
<td>F(1,1361)=0.99</td>
<td>F(2,1361)=255.27***</td>
<td>F(2,1361)=12.33***</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Addressing differences between learners</td>
<td>School 3.57 3.35 2.61 3.18</td>
<td>Higher education 3.18 3.51 2.56 3.02</td>
<td>Total 3.37 3.33 2.59</td>
<td>F(1,1349)=12.09***</td>
<td>F(2,1349)=117.93***</td>
<td>F(2,1349)=5.92 **</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Combining face-to-face, blended, and virtual learning environments</td>
<td>School 3.38 3.92 3.01 3.44</td>
<td>Higher education 3.92 3.99 3.10 3.67</td>
<td>Total 3.65 3.95 3.05</td>
<td>F(1,1357)=20.59***</td>
<td>F(2,1357)=115.21***</td>
<td>F(2,1357)=9.77 **</td>
<td></td>
</tr>
</tbody>
</table>
* p<.05 ** p<.01 *** p<.001
higher education) and learning environment (face-to-face, blended, and virtual).

**Differences between school and higher education (institution).**

We found that with regard to statements 1–7 and 10, preservice teachers thought that they were reflected in higher education more than in the school: (1) “the commitment of learners to their learning process”; (2) “learners’ choice between options/texts/assignments”; (3) “development of reflective skills”; (4) “development of social emotional skills”; (5) “inquiry-based learning”; (6) “digital libraries/learning centers/information centers available to the learner”; (7) “cooperation between learners/thinking community”; (10) “combining face-to-face, blended, and virtual learning environments.”

Preservice teachers found that statement 9 (“addressing differences between learners”) was more pronounced in the school than in higher education.

Statement 8 (“there is a dialogue between teacher and learners and between learners”) did not produce a significant statistical difference between school and higher education, but in face-to-face learning, the average was higher in the school than in higher education.

In the statements 2, 4, and 8, no statistical differences were found in the blended learning environment between the school and higher education: (2) “the students’ choice between options/texts/assignments”; (4) “development of social emotional skills”; (8) “there is a dialogue between the teacher and the learners and between the learners.”

In the statements 9 and 10, no statistical differences were found in the blended and virtual learning environment between the school and higher education (9) “addressing differences between learners”; (10) “combining face-to-face, blended, and virtual learning environments.”

**Differences between face-to-face, blended, and virtual learning environments**

We found that with regard to the statements 1, 3, 4, 5, 8, and 9, preservice teachers thought that they were strongly reflected in a face-to-face learning environment, less reflected in a blended learning environment, and much less reflected in a virtual learning environment: (1) “the commitment of learners to their learning process”; (3) “development of reflective skills”; (4) “development of social emotional skills”; (5) “inquiry-based learning”; (8) “there is a dialogue between the teacher and the learners and between the learners”; (9) “addressing differences between learners.”

A significant difference was found for statements 1 and 3 between the virtual environment and other environments, but there was no statistical difference between face-to-face and blended environments: (1) “the commitment of learners to their learning process”; (3) “development of reflective skills.”

For statements 4, 5, 7, 8, and 9, no statistical differences were found between face-to-face and blended learning environments in higher education, but they were present in school: (4) “development of social emotional skills”; (5) “active research learning”; (7) “cooperation between learners/thinking community”; (8) “there is a dialogue between the teacher and the learners and between the learners”; (9) “addressing differences between learners.”

Statements 2, 7, and 10 were expressed with regard to the blended learning environment, less to the face-to-face environment, and even less to a virtual environment: (2) “learners’ choice between options/texts/assignments”; (7) “cooperation between learners/thinking community”; (10) “combining face-to-face, blended, and virtual learning environments.”

For statement 2, “learners’ choice between options/texts/assignments,” there was no statistically significant difference between the face-to-face and virtual learning environments in school, but there was a significant difference in higher education.

Statement 6, “digital libraries/learning centers/information centers available to the learner,” found expression more for the blended environment, less for the virtual environment, and much less for the face-to-face environment in the school. In higher education, no significant difference was found between the different environments.

**Desirable Condition**

Table 2 presents descriptive statistics of “desirable state” in school and higher education and compares the respondents’ opinions about where the desired state was more important. High identification with the statement was determined as a percentage of the responses in which the statement was scored 4 and 5.

Most of the respondents in the sample strongly identified with the statements. For school, the identification ranged from 70% (for statement
We found that with regard to statements 2, 5, and 6, preservice teachers thought that it was more desirable that these statements be true for higher education than for the school: (2) “learners’ choice between options/texts/assignments”; (5) “inquiry-based learning”; (6) “digital libraries/learning centers/information centers available to the learner.”

With regard to statements 4 and 9, preservice teachers thought that it was more desirable that these statements be true for higher education than for the school: (4) “development of social emotional skills”; (9) “addressing differences between learners.”

With regard to statements 1, 3, 7, 8, and 10, the respondents thought that it was desirable that these statements be equally true for higher education and for the school: (1) “the commitment of learners to their learning process”; (3) “development of reflective skills”; (7) “cooperation between learners/thinking community”; (8) “there is a dialogue between the teacher and the learners and between the learners”; (10) “combining face-to-face, blended, and virtual learning environments.”

### DISCUSSION

The aim of the study was to examine whether and how democratic principles are reflected in learning and teaching in face-to-face, blended, and virtual learning, as perceived by preservice teachers in the final stages of their training and during their actual student teaching experience in schools. The principles examined in this study were learners’ commitment to their learning; learners’ choice of options, texts, and assignments; development of reflective skills; development of social emotional skills; active inquiry-based learning; digital libraries, learning centers, and information centers available to the learners; cooperation between learners and the thinking community; dialogue between the teachers and learners and between learners themselves; addressing differences between learners; and combining face-to-face, blended, and virtual learning environments.

### Common and Differing Features in Schools and Higher Education in Face-to-Face, Blended, and Virtual Learning Environments

This study shows that democratic principles are expressed, to varying degrees, in schools and in higher education and differentially in different learning environments. Certain democratic principles are reflected more in higher education than in schools: the commitment of learners to their learning process; learners’ choice between options/texts/assignments; development of reflective skills; development of social emotional skills; active inquiry-based learning; digital libraries, learning centers, and information centers available to the learners; cooperation between learners and the thinking community; dialogue between the teachers and learners and between learners themselves; addressing differences between learners; and combining face-to-face, blended, and virtual learning environments.
learning process; learners’ choice between options, texts, and assignments; development of reflective skills; development of social emotional skills; inquiry-based learning; use of digital libraries, learning centers, and information centers in the learning process; cooperation between learners and the thinking community; and combining face-to-face, blended, and virtual learning environments. These findings can be explained by the fact that in the process of their training, preservice teachers are exposed to democratic principles in a comprehensible way. Their attention is focused on these principles and on ways of assimilating them in the teaching process in schools (see Zilka, 2019a, 2021).

Differences between Face-to-Face, Blended, and Virtual Learning Environments

Preservice teachers emphasized that many principles (statements 1, 3, 4, 5, 8, and 9) are strongly reflected in a face-to-face learning environment, less so in a blended learning environment, and even less in a virtual learning environment: the commitment of learners to their learning process; development of reflective skills; development of social emotional skills; dialogue between the teacher and the learners and between the learners; addressing differences between learners; and even inquiry-based learning. Schwab and Brandwein (1962) claimed that inquiry-based learning is based on the perception of science being made up of disciplines. In every field of knowledge, there are conceptual structures from which the research questions derive, the data are to be collected, and the experiments are to be performed. In every discipline there is a synthetic structure that includes the processes, methods, and criteria that determine how to conduct studies, gather evidence, and draw conclusions. Inquiry-based learning (Bhagat, 2017; Pedaste et al., 2012) requires adopting learning methods that characterize the working methods of researchers in the discipline. The role of the teacher in inquiry-based learning is to help students, guide them, arouse their curiosity, and impart the skills required for research work; and to mediate between students and content and accompany students through the research stages to the final product (Angeli & Valanides, 2009; Durish, 2013; Tyner, 2014). Researchers have noted that in inquiry-based learning the learner must be involved in the learning process, look for meaning, and choose between different options (Liu et al., 2007; Meyers, 2008; Pittman & Richmond, 2008; Robinson & Hullinger, 2008; Rovai, 2007; Young & Bruce, 2011). Inquiry strategies include focusing on a research issue using the skills of asking questions; locating information from digital libraries, learning centers, and information centers; collecting and integrating information; analyzing data; presenting arguments; and more (Mäeots et al., 2011; Pedaste, et al., 2015; Seanlon et al., 2011).

This study showed that principle (8) “a dialogue between the teacher and the learners” is expressed to a large extent in a face-to-face learning environment, less in a blended learning environment, and even less in a virtual learning environment. Harper (2018) found that teacher-student interactions are a critical variable in learning processes. These interactions affect teachers’ professional development, and technology has become a means for changing teacher-student interactions, both in nondigital and face-to-face environments. But for social interaction to take place, the teacher must incorporate forums and challenging tasks, otherwise the social interactions in virtual learning may remain purely informative. Researchers stress that interactions in a virtual environment depend on the teachers’ guidance of the students’ learning processes and on the nature of the learning tasks (Houen et al., 2016; Matzat, & Vrieling, 2016). Researchers found that there was more extensive communication in virtual learning than in face-to-face learning, and that forums allowed for dialogue and created a space that enabled interactions between teachers and students in meaningful and extensive learning processes (DeGennaro, 2008; Gomez et al., 2010; Velasquez et al., 2013).

A Desirable Situation in the Perception of Preservice Teachers

An instructive study finding is the significant difference between the desired situation in schools and in higher education in relation to the following principles: (2) “learners’ choice between options/texts/assignments”; (6) “digital libraries/learning centers/information centers available to the learner”; and (5) “inquiry-based learning.” The preservice teachers’ answers indicate that they think these principles are important in higher education but less so in schools. One of the goals of lifelong learning and the acquisition of 21st-century skills
(Burden et al., 2019; OECD 2018a, 2018b, 2019) is for schools to prepare learners for lifelong learning in a complex and changing digital environment and enhance learners’ ability to use a variety of digital resources in a critical and intelligent way. The qualitative changes that a digital environment provides has to do with the richness and accessibility of resources anywhere, and anytime, in and out of the classroom. Researchers found that digital developments increase learners’ motivation as well as their social and educational engagement and help them understand the study content (Foti & Mendez, 2014; Hanafi & Samsudin, 2012; Rossing et al., 2012; Schugar et al., 2013; Warschauer, 2011; Zilka, 2019b). Digital developments are becoming increasingly available, with expanding functionality and a wide range of applications that allow learners to access learning aids and materials anytime, anywhere (Cohen et al., 2015; Dahlstrom et al., 2015; Zilka, 2019b).

Development of Emotional and Reflective Skills

A principle that is expressed more in schools than in higher education is (9) “addressing differences between learners.” In schools, teachers address differences between students more than they do in higher education, according to preservice teachers. At the same time, addressing the differences, as reflected in the data, is not high (3.02), and in a virtual environment even lower (2.56). Researchers refer to the teacher’s emotional availability to students as a critical variable affecting their learning and development process (Hamre & Pianta, 2005; Zilka, 2015, 2018). The term “emotional availability” refers to the quality of the emotional relationship, the nature of the interactions, and the way in which the teachers convey messages of support and trust to students. These messages may form the basis for safe communication between teacher and student. The emotional availability of teachers is expressed in the perception of students as persons with their own needs and desires, prompting teachers to arrange experiences that match students’ development and needs, help them understand processes, and encourage them to seek support when needed. Emotionally available teachers show interest in their students and invest thought in the quality of their relationship; in this way, they become meaningful in the students’ lives and affect a change in their mental wellbeing. Researchers found that students value a teacher who tries to create positive interactions with them, addresses them directly, and uses encouraging language (Mashburn et al., 2008; Zilka, 2015, 2018, 2020a).

Principles (4) “development of social emotional skills” and (3) “development of reflective skills” are more pronounced in school than in higher education, but even in school their average is relatively low (3.11), and it is even lower in a virtual environment (2.66). The main objectives of the socio-emotional approach are cultivating a sense of resilience, empathy, self-efficacy; cultivating a growth mindset and decision-making ability; developing self-awareness, self-management, social awareness, and interaction management; and accepting responsibility (Beauchamp, 2015; Farr, 2010; Liu, 2015; Nooreiny, 2007). Researchers claim that SEL involves the promotion and application of social and emotional skills for the student in developmentally and culturally appropriate ways, and with the understanding that emotional and social difficulties affect the student’s well-being, academic achievement, and general mood (Husaj, 2016; Zilka, 2015, 2017c). The researchers’ assumption is that social and emotional skills are acquired, and they can be learned and practiced (Husaj, 2016; Zilka, 2015, 2017c). These include self-awareness, emotion management, assertiveness, empathy, self-discipline, perseverance, resilience, relationship management, social responsibility, adaptation, coping with stress, and delaying gratification.

CONCLUSION

The assimilation of democratic principles in learning and teaching leads to a challenging learning process that encourages innovation and initiative, cultivates personal characteristics, and allows for the acquisition of methods, skills, and abilities. The findings show that there are principles that are reflected more in higher education than in schools, and others that are reflected to some extent in a face-to-face learning environment, but less so in other environments. There was a significant difference, as perceived by preservice teachers, between the desired situation in schools and the desired situation in higher education in relation to several principles, such as the principle of learner’s choice between options and the principle of exposure to digital libraries, learning centers, and
information centers. It is advisable to encourage preservice teachers to practice the application of democratic principles during their student teaching experience in schools, under the guidance of teacher educators, for optimal assimilation and implementation of these principles by them later, as in-service teachers.
REFERENCES


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