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Front Pages

Athens Journal of Education

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The current issue is the third of the ninth volume of the *Athens Journal of Education (AJE), published by the Education Unit of ATINER.*

Gregory T. Papanikos
President
ATINER

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- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **17 April 2023**

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- **Dr. John Spiridakis**, Co-Editor, Athens Journal of Education & Professor, St. John University, USA.
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Moral Taste and Moral Education – An Interview Study

By Niclas Lindström[*] & Lars Samuelsson[±]

In recent research on moral psychology, the human consciousness has been compared to a tongue, with different taste buds, which together can cause a variety of sensations. According to this theory, people in general have a preparedness to react to situations, which can provide opportunities or pose threats in a social context. Moral psychologist, Jonathan Haidt, has described these receptors as pairs, for example: care/harm, fairness/cheating, loyalty/ betrayal, authority/subversion and sanctity/degradation. Which of these foundations the individual develops a taste for depends, largely, on the social and cultural context. Hence, the choices teachers make of which issues to address and in what way can contribute to a learning environment that influences their pupils' moral outlook. The purpose of this study is to investigate which of these moral intuitions or taste preferences that teachers want to endorse and cultivate in their pedagogical practices. Against this background, a number of qualitative research interviews were conducted with experienced teachers in the non-confessional subject religious education (RE), who have a particular responsibility for moral education in the Swedish school system. The interviews were based on a modified version of the Moral Foundations Questionnaire, which was deliberately developed to determine the participants' moral taste, and the participants were asked to elaborate their answers. The results indicate that the participants tended to favour harm and fairness over loyalty, authority and sanctity. As one of the participants puts it: "many of my examples relate to the weak and vulnerable or the ones that are denied their rights in society… these pedagogical choices are based on the content of the curriculum but also mirror my own preferences". In this paper we analyse the interviews with the RE teachers and critically discuss the consequences the moral foundations theory has for moral education.

Keywords: moral education, ethics education, moral psychology, moral foundations theory

Introduction

In recent research on moral psychology, the human consciousness has been compared to a tongue, with different taste buds, which together can cause a variety of sensations. According to this theory, people in general have a preparedness to react to situations, which can provide opportunities or pose threats in a social context (Haidt, 2012; 2013). Several researchers have considered this a paradigm shift within moral psychology but the interest from educationalists has so far been limited. Maxwell and Narvaez (2013) have, for instance, stated that despite the

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important influence of new moral psychology "on how many contemporary social psychologists understand moral information processing and explain people's moral reactions, few attempts have been made to assess its significance for theory, research and practice in moral development and education" (p. 271). More recently, there has been a growing interest in moral psychology among educationalists, but very few of their contributions to the debate contain empirical studies. In this paper, we want to make a contribution to the current debate, on how moral psychology and empirical investigations can be relevant to educational studies.

The moral taste preferences may come naturally or be acquired in a social and cultural context. This is why teachers' choices of content and working methods may contribute to a learning environment, which influences their pupils' moral and political outlook. The purpose of this study is, thus, to investigate which of these moral intuitions or taste preferences that teachers want to endorse and cultivate in their pedagogical practices. Against this background, a number of qualitative research interviews were conducted with a group of experienced teachers in the non-confessional subject religious education (RE), who have a particular responsibility for moral education in the Swedish school system. The interviews were based on a modified version of the Moral Foundations Questionnaire, which was deliberately developed to determine the participants' moral taste, and the participants were asked to elaborate their answers (Graham, Haidt, & Nosek, 2008). We believe that this kind of study can be important as it may provide educators with knowledge that can facilitate informed choices of activities, teaching methods and pedagogical models.

Selected Literature Review

Jonathan Haidt's Moral Foundations Theory

Moral psychologist Jonathan Haidt has suggested that people, in general, have an innate preparedness to react to certain situations that occur in a social context. Just as the attention is automatically headed to a snake in the grass, it will also be directed to certain types of events in social contexts. An act of disrespect or cruelty, for example, tends to trigger intuitive reactions, e.g. of sympathy or anger (Haidt, 2012, p. 144; Haidt, 2013, p. 290). This preparedness means that some moral ideals will be easier for children to absorb than others depending on the extent to which they are consistent with our intuitive responses. Haidt describes this preparedness in terms of *moral foundations*:

> Foundations are the universal psychological preparednesses (Seligman, 1971) that make it easy for children to learn some moral ideas (e.g., if someone hits you, hit him back), but hard to teach others (e.g., if someone hits you, turn the other cheek with love in your heart). (Haidt, 2013, p. 290)

This is the reason why moral psychologists compare the human consciousness to a tongue, with different taste buds, which together can cause a variety of sensations. Haidt (2012; 2013), has described these receptors as pairs, for example:

care/harm, fairness/cheating, loyalty/betrayal, authority/subversion and sanctity/ degradation. Which of these foundations the individual develops a taste for depends, largely, on the social and cultural context (Graham, Haidt, & Rimm-Kaufman, 2008; Haidt, 2012, p. 146, p. 197).

The choices teachers make, of which issues to address and in what way, can contribute to a learning environment that influences their pupils' moral outlook. This becomes even more important considering that Haidt and his colleagues have been able to demonstrate a connection between those who adhere to *individualizing values* (harm and fairness) and a liberal political position and those who also embrace *binding values* (loyalty, authority and sanctity) and a conservative political position (Graham, Haidt, & Nosek, 2009). These results were confirmed by an extensive quantitative study that gathered over 34 000 participants. The participants were asked to grade, on a scale of 0-5 (where 0=not at all relevant and 5=extremely relevant), which considerations that they thought were relevant to decide whether something is right or wrong (Graham, Haidt, & Nosek, 2008). The study showed that self-reported liberals, on the one hand, tended to favour harm (3.67) and fairness (3.74) over loyalty (2.07), authority (2.06) and sanctity (1.27). Self-reported conservatives, on the other hand, distributed their valuations more evenly between harm (2.98), fairness (3.2), loyalty (3.08), authority (3.28) and sanctity (2.98) (p. 28).

Haidt has described how the results made him, as a liberal, work consciously to broaden his taste in moral emotions, to go beyond harm and fairness, and has called for teachers and researchers to do the same (Haidt & Kesebir, 2010, p. 842; Haidt, 2012, p. 118). Hence, the choices teachers make of how to treat these moral foundations may also shape their pupils' political outlook. The question of which intuitions or taste preferences that teachers want to endorse and cultivate in their pedagogical practices is not just an innocent matter of individual choice but can have far-reaching consequences for their pupils.

The Moral Foundations Theory in Educational Studies

The Moral Foundations Theory has attracted attention and caused debate among moral psychologists, ethicists and philosophers. However, even if the theory could have important pedagogical consequences, it has not been discussed to the same extent within the educational field (Maxwell & Narvaez, 2013, p. 271).

Some researchers have criticized, for example, what they perceive as conceptual and methodological ambiguities in the new moral psychology. They have problematized the use of distinctions, between emotion and cognition and liberal and conservative, as too influenced by self-report data collection and imbued by the cultural context where the studies were performed (Haste, 2013; Blum, 2013). Others have criticized the new moral psychology for avoiding empirical evidence of how it is possible to develop critical thinking and the ability to make considered judgements as part of character development (Musschenga, 2008; Kristjánsson, 2013; Kristjánsson, 2016). Still other researchers have discussed if the Moral Foundations Theory could contribute to the pupils'

understanding of themselves (Murphy, 2014) or competing value systems (Musschenga, 2013). Some have even suggested that the theory could be used for the pupils to embrace a wider set of values than other moral pedagogical models (Maxwell & Beaulac, 2013). These educational researchers remain critical of the Moral Foundations Theory despite the vast support of the new moral psychology in psychological and neurological studies (see Graham et al., 2011; Graham et al., 2013; Haidt, 2012).

There are relatively few empirical studies on how the new moral psychology can affect teaching and several researchers have pointed to the need for more research in the field (see e.g., Maxwell & Narvaez, 2013; Haste, 2013). Some researchers have tried to establish a connection between the experience of threat and embracing binding values (Wright & Baril, 2013). Others have tried and failed to establish a connection between adhering to harm and fairness and a high score on a defining issues test (DIT) designed to measure moral development (Glover et al., 2014). Yet others have examined if specific emotional reactions could be linked to different moral foundations (e.g., compassion could be linked to care and disgust could be linked to purity) but often the connections are not as clear as the theory predicts (Landmann & Hess, 2017). None of the existing empirical studies investigates which of these moral intuitions or taste preferences that teachers want to endorse and cultivate in their pedagogical practices, which is the purpose of this study (see Wright & Baril, 2013; Glover et al., 2014; Landmann & Hess, 2017).

An Interview Study Based on the Moral Foundations Questionnaire

We conducted a number of qualitative research interviews in order to investigate which moral intuitions or taste preferences RE teachers want to endorse and cultivate through their pedagogical practices. The participants were seven licenced RE teachers, with approximately 10-30 years of experience in the profession (Teacher 1-7), who are considered to have a special responsibility for moral education in the Swedish school system.

The interviews were based on a modified version of the Moral Foundations Questionnaire, which was deliberately developed to determine the participants' moral taste: care/harm, fairness/cheating, loyalty/betrayal, authority/subversion and sanctity/degradation. The original questionnaire consists of 32 questions, in total, tracking five moral foundations. In the study, a shortened version - consisting of ten questions in total - was used, where two questions were selected to track each of the five foundations. The participants were asked to grade, on a scale of 0-5 (where 0=not at all relevant and 5=extremely relevant), which considerations are relevant to decide whether something is right or wrong (Graham, Haidt, & Nosek, 2008). Afterwards, the teachers were asked to motivate their answers and encouraged to illustrate with examples from their pedagogical practices (see Yin, 1994; Kvale, 2007). These questions were posed to examine which values the teachers wanted to endorse and cultivate through their pedagogical practices. The interviews were audio-recorded and transcribed to enable further analysis and serve as a background to the upcoming discussion (see Kvale, 2007, pp. 92-97).

We briefed the teachers who took part in the study of the general purpose and invited them to participate voluntarily. The teachers were informed that they could discontinue at any time and that their answers would be anonymized and used for research purposes only. We did not store any sensitive personal data or pose questions of a sensitive character, e.g., concerning political, philosophical or religious conviction. The interviews were carried out at the schools where the teachers work and on two occasions at Umeå University. Thus, the study was designed to ensure compliance to the general research ethical principles of informed consent, anonymity, confidentiality and precautious use of collected information (SRC, 2017).

In this study, we use the Moral Foundations Theory, which was introduced in the background, to analyse the teachers' answers and determine which moral taste preferences that they wanted to endorse and cultivate through their pedagogical practices. As the Moral Foundations Questionnaire is used in quantitative data collection we also have an opportunity to use supplementary questions to identify different positions which may or may not support the standard interpretation of the empirical content. We intend to apply the model in a context-sensitive manner to give a fair representation of the answers from the interviews (Lindström & Samuelsson, 2021). The purpose is to make a critical and empirically informed contribution to the ongoing debate.

Results: Teachers' Views on Moral Foundations and Educational Values

The teachers, who participated in this study, seem to favour *individualizing values* (harm and fairness) over *binding values* (loyalty, authority and sanctity). The results from the questionnaire were used to let the teachers elaborate on how these considerations affected their teaching in ethics during RE courses in the Swedish school system. The main focus of this part of the paper is how the teachers motivate their choices and how they are enacted in their pedagogical practices. This qualitative information, we believe, can make an important contribution to studies based on the quantitative Moral Foundations Questionnaire and especially when applied to an educational context. Table 1 shows the teachers' (T1-T7) views of which considerations are relevant to ethical judgement (see Graham, Haidt, & Nosek, 2008).

Table 1. Factors Teachers Consider Relevant to Ethical Judgements

	Moral foundations	**Whether or not someone:**	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**A**
Individualizing Values	care/harm	cared for someone weak or vulnerable	5	4	5	5	5	5	5	**4.9**
		suffered emotionally	5	4	4	5	4	5	5	**4.6**
	fairness/ cheating	was denied his or her rights	5	5	5	5	5	5	5	**5**
		some people were treated differently than others	5	5	4	3	3	5	?	**4.2**
Binding values	loyalty/ betrayal	showed a lack of loyalty	3	2	2	5	1	4	5	**3.1**
		did something to betray his or her group	3	2	3	2	1	3	?	**2.3**
	authority/ subversion	conformed to the traditions of society	1	3	2	2	2	2	?	**2**
		showed a lack of respect for authority	2	1	4	1	1	3	5	**2.4**
	sanctity/ degradation	violated standards of purity and decency	5	1	3	5	3	3	?	**3.3**
		acted in a way that God would approve of	3	2	3	2	2	1	5	**2.5**

Table 1 shows the teachers' (T1-T7) views of which considerations are relevant to ethical judgement (see Graham, Haidt & Nosek, 2008).

Factors not Relevant to Ethical Judgements

The teachers' questionnaires indicate that they do not generally consider binding values as authority, loyalty and sanctity to be important when making ethical judgements. Hence, these values are not something they want to endorse or cultivate in their pedagogical practices. When the teachers are allowed to motivate why they do not consider these factors relevant, one of them expresses that authority is "negatively charged" and continues: "I am critical to a conservative approach [to ethics]… I believe that we need to be able to re-evaluate different phenomena depending on which context we are considering" (Teacher 4). Another teacher elaborates on a similar point and expresses that an emphasis on authority and loyalty may prevent the pupils from making "their own ethical assessments", which is an important part of RE (Teacher 5). An interpretation is that these teachers associate authority with a lack of flexibility that is needed when making assessments in different contexts of a modern society where conditions may change rapidly. The answers also seem to suggest that trust in authorities limits individual freedom and that the teachers rather want to encourage the pupils to make autonomous decisions and take responsibility for their choices.

Several of the participants are critical of binding values as they consider them incompatible with autonomy or critical thinking and believe has had negative consequences. One teacher expresses, for instance, that to follow authorities or traditions would be to "dismiss the heritage from the enlightenment" and pave way for "a return to the Middle Ages" (Teacher 2). Another teacher considers binding values to be associated with a problematic relationship to the environment and connected to religious convictions:

> When it comes to our way of treating the planet, there are good reasons to question whether our traditions would be a reasonable starting point for judging what is right or wrong. There are writings in the legislation about the rights of the weak and vulnerable, which is good, but I do not perceive them primarily as traditions. Otherwise, the starting point for assessments has often referred to shame and guilt within Puritan morality, which is something that remains within the culture but which there are good reasons to leave behind. (Teacher 1)

The teachers seem to express negative views on binding values but, even so, several of the participants in this study consider them a part of the subject RE in the Swedish school system. Some of the participants seem to think that authority and tradition are "important parts of various religions and life views" (Teacher 4) and that it is essential to "problematize" these cultural manifestations "without criticizing them too hard" (Teacher 6). One teacher expresses that tradition may be more important in comprehensive school because of the task to convey a set of fundamental values to the pupils. In upper secondary school "I am more focused on them [the pupils] finding their own argumentation, their own approach, that could play a role and have a meaning [for their ethical judgements]" (Teacher 5). Thus, authority and tradition seem to be considered the subject matter of religious studies rather than part of the normative content related to the task of conveying values and fostering democratic citizens.

Factors Relevant to Ethical Judgements

The teachers' questionnaires indicate that they consider individualizing values, as harm and fairness, to be important when making ethical judgements. Hence, these values are something they want to endorse and cultivate in their pedagogical practices. Several of the participants in this study express a connection between care for the weak and vulnerable in society and fairness or rights. One teacher expresses that "some pupils are exposed and in difficult positions" and that it is important that "nobody is denied their rights at school" (Teacher 6). Another teacher wants to dissociate herself from "meritocracy or elitism" and says that it is important to understand that: "the pupils do not come to school to show what they know but to develop as human beings. I am grateful, as a teacher, to have the opportunity to learn so much together with my pupils every day" (Teacher 7). Yet another teacher stresses the significance of "acting according to the human rights in the society… and that should permeate the education" (Teacher 2).

The participants in this study seem to consider care and fairness as desirable on every level from personal, social, national and international relationships. An interpretation is that the individualizing values are considered to provide the pupils with possibilities rather than like binding values limit them. From that perspective, the attempt to endorse and cultivate individualizing values could become a vehicle to promote equal opportunities in society. Even if a majority of the teachers, who participate in this study, share this perspective on harm and fairness there are some exceptions.

One of the teachers expresses how he becomes "aware of [his] own pedagogical practice" during the interview: "It is important to take the time, which I do not always do, to critically examine one's own teaching in relation to the fundamental values of the curriculum. Many of the examples I use in my teaching relate to the weak and vulnerable or the ones that are denied their rights in society… these pedagogical choices are based on the content of the curriculum but also mirror my own preferences". He continues:

> I notice that some of these examples touch the pupils and that they become committed to the issues we are considering… The choice of which examples to use and how to present them is important, to be able to raise the level of commitment in the classroom and make the issues urgent, for the pupils and me as a teacher. To understand that these are serious matters, there are values at stake, and that it really means something. This is not only an intellectual problem. It is important for how we choose to lead our lives. (Teacher 5)

This teacher is the only of the participants in this study who acknowledges himself as a part of a philosophical or ideological tradition. He struggles to explain how these convictions influence his teaching in a way that is coherent with the requirements of the curriculum. The teacher has chosen examples to evoke a sense of "solidarity" with less fortunate groups in society which can be interpreted as endorsing binding values. However, these exercises also require that the pupils develop an awareness of certain societal problems and can provide reasons for their judgements, which can be interpreted as conveying individualizing values. The analysis of this specific case suggests that it is possible to use examples, which involve harm and fairness, to appeal to a variety of binding and individualizing values. Thus, the strict division between binding and individualizing values posited within the Moral Foundations Theory, appears hard to maintain in an educational context.

Discussion

According to the Moral Foundations Theory people, in general, tend to react intuitively to various kinds of events that occur in the immediate social context. These intuitive reactions follow certain patterns and most of us can sense a variety of *individualizing values* and *binding values*. The point of departure of this study is that the choices teachers make of which issues to address and in what way can contribute to a learning environment that influences their pupils' moral and political outlook. The purpose of this study has been to investigate which moral intuitions or taste preferences that Swedish RE teachers want to endorse and cultivate in their pedagogical practices.

The results from the Moral Foundations Questionnaire show that the RE teachers who participated in this study tended to favour individualizing values (harm 4.9/4.6, fairness 5/4.2) over binding values (loyalty 3.1/2.3, authority 2/2.4, sanctity 3.3/2.5) (where 0=not at all relevant and 5=extremely relevant to moral

judgements).[1] These results are possible to compare to previous studies, where self-reported liberals favoured individualizing values (harm 3.67, fairness 3.74) over biding values (loyalty 2.07, authority 2.06, sanctity 1.27) whereas self-reported conservatives distributed their valuations almost evenly across the five foundations (harm 2.98, fairness 3.2, loyalty 3.08, authority, 3.28, sanctity 2.98) (Graham et al., 2011, p. 28). An interpretation is that the RE teachers who participated expressed an unusually liberal moral outlook.

This reading was confirmed when the teachers were given the opportunity to elaborate on how their preferences were reflected in their pedagogical practices. A consistent pattern in our interviews is that the teachers' values influenced their selection of issues they let their pupils treat in classroom exercises. The teachers stated that they often let their pupils discuss examples about the weak and vulnerable or those who were denied their rights in society. The pupils were consequently expected to be able to provide reasons for their own judgements regarding these matters. This would suggest that the purpose of these activities was not only to let the pupils pay special attention to issues related to individualizing values in society but also on them making and defending personal choices. A reasonable conclusion seems to be that the teachers who participated in this study selected examples and provided tasks that influenced the pupils' moral taste to include primarily individualizing values.

However, when we shift focus and analyse the teachers' reasons to dismiss binding values the picture of their pedagogical choices becomes more complex. The teachers who participated in this study argued that authority and tradition could not provide a solid foundation for ethical judgements. They seemed to view the ideals, norms and values that they wanted to endorse and cultivate as separated from a specific tradition. Yet, some teachers referred explicitly to traditions, as the enlightenment and the legislation, when they dismissed other traditions as the basis of ethical judgments. An interpretation is that the majority of these teachers did not regard their own values in connection to any social, cultural and historical context or as a part of a tradition. There are few indications of teachers participating in this study weighing various traditions or their value systems against each other. It is possible that qualitative studies of this kind will reveal deficiencies in the Moral Foundations Questionnaire as a self-report style of data collection. An example of this is that the teachers' dismissal of tradition as the basis of ethical judgement does not apply to their own individualist, liberal and democratic tradition.

The Moral Foundations Theory implies that the choices of issues and activities in the classroom may potentially have a political dimension since individualizing values have been associated with a liberal political position while binding values which have been associated with a conservative political position. The teachers' almost unanimous ambition to treat issues that endorse and cultivate individualizing values in the classroom would suggest that the pupils' moral taste preferences were influenced in a liberal direction. Nevertheless, one of the teachers (Teacher 5) who participated in the study stated that he had chosen examples about the weak and vulnerable or those who are denied their rights in society. If we use

[1]Since we used two questions to track each moral foundation we report one average per question (see Table 1).

Moral Fundations Theory to categorize these examples, they are related to the individualizing values, harm and fairness. The teacher described how he used these examples to evoke a sense of "solidarity" with less fortunate groups in society that can be interpreted as endorsing binding values. We have suggested that it is possible to use this kind of examples to appeal to a variety of binding and individualizing values. This would dissolve the strict division between binding and individualizing values, posited within the Moral Foundations Theory, in an educational context.

Conclusions

In this study, we have conducted qualitative interviews based on a modified version of the Moral Foundations Questionnaire, which was deliberately designed to track the participants moral taste preferences. We have used this approach as a complement to previous quantitative studies in order to examine which values Swedish RE teachers want to endorse and cultivate in their pedagogical practices. The participating teachers' ways of motivating their choices and giving examples of classroom practices problematizes self-report data collection since they dismiss traditions as the basis of ethical judgements and yet rely on them in their own assessments. We have also argued that the use of examples based on harm and fairness to evoke a sense of solidarity to the weak and vulnerable in society seems to dissolve the strict division between binding and individualizing values, posited within the Moral Foundations Theory, in an educational context.

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The Integration of the Digital Platform *Educaplay* in Interdisciplinary Paths in the 1st and 2nd Basic Education Cycles

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The dialogue between knowledge, pedagogies and didactic resources gives meaning to learning. This learning when integrated in a transdisciplinary environment enhances the holistic development of the child. This study is part of the Master's Degree in Education of the 1st Cycle of Basic Education and Portuguese and History and Geography of Portugal in the 2nd Cycle of Basic Education, integrated in the IFITIC Project "Innovate with ICT in Initial Teacher Training to Promote Methodological Renewal in Pre-school Education and in the 1st Cycle of Basic Education". The purpose of this research is to verify the potential of the digital educational platform *Educaplay* in the 1st and 2nd Basic Education Cycles. In this sense, the qualitative methodology was used, of an interpretative and comprehensive nature, since the aim is to analyze the social, valuing the meaning of action and the role of the subjects in the social construction of reality. The data were collected by the participating observation practice and field notes, since they allow access to facts, situations and behaviors, difficult to be captured through the survey or interview. In the first stage the educational practice was understood through the integration of digital resources and in the second stage the facts and their impacts were analyzed and interpreted. The sample involved 73 children, 21 children attending 3rd grade and 52 children from two classes attending 6th grade at a school in the Porto region. The results show that this platform has promoted: a) the appropriation of contents in a transversal and interdisciplinary way and b) the development of skills, values and attitudes inherent to the profile of the XXI century student. Thus, the article presents the educational practices that have integrated tools of *Educaplay* by the voice of the narrator. It is hoped that this research can provide pointers for teachers and educators seeking to renew their educational practices of vertical and horizontal articulation.

Keywords: digital platform *Educaplay*, vertical articulation, horizontal articulation, participant observation, field notes

Introduction

The design of interdisciplinary teaching paths by the teacher requires a combination of knowledge, pedagogy and teaching resources to enhance student learning. In turn, it implies a renewal of educational practices (Quadros-Flores & Raposo-Rivas, 2017) and an initial training of quality teachers that accompanies the metamorphosis of the school and creates new environments for professional teaching training (Nóvoa, 2019). Stimulating interaction between theory and

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practice, responding to a plural and flexible teacher profile, capable of articulating knowledge between the various areas of knowledge (horizontal articulation) and between years of schooling (vertical articulation) responding to the interests of today's young people is a challenge that reaches us.

In this sense, this article is part of the Supervised Educational Practice (SEP) contemplated in the Master's Degree Course in Teaching at the 1st Cycle of Basic Education and Portuguese and History and Geography of Portugal at the 2nd Cycle of Basic Education.

The formative model adopted at SEP sought to stimulate, among teachers in initial training, practices in which the integration of knowledge between areas of specialization and teaching cycles was promoted, respecting the specificities of each area, in a permanent "shuttle" process that leads to future changes (Oliveira & Serrazina, 2002; Graça, 2018).

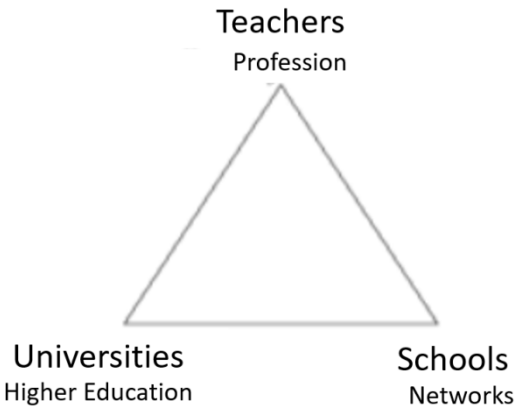
In this context, the trainee student has developed didactic paths promoting vertical and horizontal articulation, namely in the 1st Cycle of Basic Education and 2nd Cycle of Education, in the specialties of Portuguese and History and Geography of Portugal, using the digital platform *Educaplay.*

Literature Review

Nowadays, we are witnessing fast and constant transformations in society and the area of education was no exception.

According to Nóvoa (2019), we are witnessing strong transformations and it is imperative "to reconstruct the environments, always having an orientation that the place of formation is the place of the profession" (p. 7). This reconstruction passes, in its perspective, by the components it presents in the triangle of teacher training (Figure 1).

Figure 1. Formation Triangle (translated)



Source: Nóvoa (2019).

In this way, the author intends to reinforce the idea that initial teacher training should link these three sides, where universities together with the network of

schools should create environments for quality teacher training and prepared for the challenges of today. The experiential knowledge built in the internship centers express decision making and autonomy capabilities, finding solutions for emerging situations of practice, know-how, know how to be fundamental in teaching professionalism. This possibility of feeling the complexity of reality is fundamental for the future teacher, because it promotes the construction of a professional who acquires and develops knowledge from practice and in confrontation with the conditions of the profession.

In this sense, it fosters the training of teachers as agents of transformation, of the production of specific knowledge of the profession. Even in adverse contexts and in situations of surprise and uncertainty, it is in the interaction with the context and its actors that the specific know-how of the teaching profession is built.

It is in this context that the Supervised Educational Practice of the 1st Cycle of Basic Education and Portuguese and History and Geography of Portugal of the 2nd Cycle of Basic Education is framed, whose formative model is based on the development of vertical and horizontal articulation educational practices, promoting the articulation and integration of knowledge between the areas of specialty and teaching cycles, respecting the specificities of each area and enriching the contexts by the positive influence of the contexts of intervention with didactic practices and knowledge leading to the profile of the multifaceted teacher (Oliveira & Serrazina, 2002; Graça, 2018).

The vertical articulation aims to improve the coherence of studies in a disciplinary area of a given cycle or level of education, while the horizontal articulation promotes the development of the interrelationship between the various disciplines or disciplinary areas (Tanner & Tanner, 1980; Gimeno, 1996; Pacheco, 2001; Morgado & Tomaz, 2010). Three concepts emerge linked to the articulation of knowledge: 1) multidisciplinarity or multidisciplinarity; 2) interdisciplinarity; 3) transdisciplinarity. Regarding the first concept, it refers to the relationships between the disciplines and the fragmented curriculum (Leite, 2012). From the author's perspective, interdisciplinarity refers to the creation of a group of disciplines that interrelate in a global and holistic vision. Transdisciplinarity, in its perspective, articulates contextually and curricularly, allows exploring the contents that underlie the disciplinary areas in meaningful way for the student, facilitating the interpretation and understanding of reality. Also the legal documents of the Directorate General of Education reinforce the curricular articulation and educational continuity, and allow the formation of a double profile teacher, as referred to in the Decree-Law no. 43/2007[1], of February 22nd.

It is thus allowed the mobility of teachers between levels of education with a deep look between them, which can facilitate the transition of the student through practices and educational projects more focused and continued. These curricular organization dimensions are present in Bruner's (2001) spiral curriculum concept.

[1]Decreto-Lei nº 43/2007 de 22 de fevereiro. Diário da República n.o 38 – I Série. Ministério da Educação (Official Gazette No 38 - Series I. Ministry of Education). Lisbon. Regime jurídico da habilitação profissional para a docência na educação pré-escolar e nos ensinos básico e secundário (Legal regime of professional habilitation for pre-school education and our basic and secondary education institutes).

In the author's line of thought, this type of curriculum has an interactive nature in the ways of building/reconstructing knowledge, and as the topics and concepts are assimilated, the increasing levels of difficulty and complexity of learning increase. Teaching and learning units were then created that related programmatic contents between teaching cycles and disciplinary areas.

It was necessary to reorganize the teaching and learning process, outlining interdisciplinary teaching paths that integrate digital technologies. In Moran's (2004) view, it is important that students be more motivated, have more initiative, explore new possibilities. And the technologies can be an excellent help in the task of developing this more enterprising and innovative student.

Several studies refer to the potential of ICT in the teaching and learning process as a pedagogical tool in the appropriation of knowledge and development of skills, but also in stimulating the involvement and enthusiasm of students in learning (Batista, Pires, Brito, & Rodrigues, 2017;); as a resource for greater consolidation of teaching/learning (Gonçalves, 2012); or in the promotion of new ways of learning, teaching and thinking (Gândara, 2013). They also contribute to the learning of several areas of knowledge, such as Mathematics, where students used the computer and the Internet to learn (Viseu, Lima, & Fernandes, 2013; Ribeiro, Sant'Ana, & Sant'Ana, 2021); in Portuguese, where was a promoter of multilements (Ottoni & Silva, 2017); in History, through the use of Web 2.0 tools (Cruz, 2009) with the use of the technological tool Nearpod (Caetano & Nascimento, 2019); in Geography learning (Simões, 2020). Clearly that technology alone does not guarantee educational success, it is supported by methodological changes that are important for good student performance (Quadros-Flores & Ramos, 2016; Raposo-Rivas et al., 2020) and the use of cognitive tools that develop complex thinking in the student (Jonassen, 2007).

From the author's perspective, cognitive tools are "computer applications that require students to think significantly in order to use the application to present what they know" (p. 15). It advocates that the use of these tools enhances peer cooperation, active participation, knowledge building and student learning.

Its use of the tool, inserted in the theoretical framework of constructivist learning, contributes to the process of teaching and learning, motivating motivatin students and stimulating skills, abilities and attitudes inherent to the *Profile of the Student leaving Compulsory School*, participation, motivation, previous knowledge, intuition, reasoning and problem solving, autonomy, curiosity, empathy, group identity, interaction, information and communication, critical and creative thinking, cooperation, collaboration, argumentation (Oliveira-Martins et al., 2017).

It is in this context that the use of the *Educaplay* digital platform emerges in the design of interdisciplinary paths in the 1st and 2nd Cycles of Basic Education. This platform enables the creation of online educational activities (Salazar, 2014).

In the vision of López (2012) an educational platform is a virtual environment that facilitates the creation of training activities through the network, integrating different basic tools in the same interface, so that users can carry out all the activities of the training processes from the same environment. It effectively integrates tools that leverage a lot of features, such as crucigrams, multiple choice questions, letter soup and others (Table 1).

Table 1. Educaplay Platform Functionalities

Activity	**Functionality(s)**
1) Riddles	Find a word from a series of clues.
2) Crucigram	Complete a word, through clues that can be: written, sound or image.
3) Letter Soup	Find words in the soup of letters the words requested.
4) Complete texts	Add the missing words in a paragraph or sentence.
5) Dialogue	Cancel the audio of one or more characters so that the user can assume the role of that character. There are two playback modes: continuous playback and phrase by phrase playback.
6) Dictations	Write on the platform the text to be heard in the dictation.
7) Sort letters	Sort letters to form a word or phrase.
8) Linking elements	Review concepts by associating several words or images.
9) Create test questionnaire	Build questions adapted to the concepts you want to evaluate.
10) Vídeo*quiz*	Put questions on the video, you can resort to *Youtube*.

Source: Own authorship, based on Salazar (2014).

The platform also allows students to download activities in flash format to develop without an Internet connection and allows them to create their own activities (Salazar, 2014). But to have effective effects on student learning and skills, it is necessary to recreate and renew educational practices with new methodologies to give meaning to educational change (Quadros-Flores & Raposo-Rivas, 2017).

Methodology

In this study, a qualitative methodology was used. Qualitative research focuses on understanding the phenomena, exploring them from the perspective of the participants in a natural environment and in relation to their context (Sampieri, Collado, & Lucio, 2014). The following starting question was outlined: "What are the potentialities of the *Educaplay* digital platform in the development of knowledge, skills and attitudes of students, through interdisciplinary teaching paths?"

To answer the question presented, participant observation was used, by means of field notes collected by the trainee teacher (NC)[2]. This type of observation places the researcher as an active participant in the study, and for this reason he is considered by Denzin (1989) as "a deep dive in the field" (p. 142), and for this reason he records his data in a reconstructive, typifying and synthetic way, resulting in field notes. These field notes can be of two types: a) Descriptive, in which so precise and detailed descriptions of what is observed are made, such as physical appearance, as well as saying and acting; b) Reflexive, in which the

[2](NC) Abbreviation for field note.

researcher makes speculations of expressions and feelings and creates ideas and impressions from the data he observes (Coutinho, 2011).

In the case of this study, descriptive and reflective field notes (FN) were used in order to investigate the potential of the *Educaplay* platform in the development of knowledge, skills and attitudes in the student using intedisciplinary teaching paths. The teacher developed the activities with the students and, when possible, took their field notes during the activities, however, some of the notes were written after the activities were finished. The trainee teachers designed strategies that integrated *Educaplay* in order to promote enthusiastic participation by the student during learning, both at the level of understanding and systematisation of the curricular content. The sample involved 73 children, 21 children attending the 3rd grade and 52 children from two classes attending the 6th grade of a school in the Porto region. Only the classroom computer was used and it was through this equipment that the activities on the platform were developed. In collaborative work, the students responded to the challenges proposed on the platform, and one student at a time wrote the group's response on the platform, thus developing digital, cooperation and collaboration skills. As a trainee teacher, her work was more intense in the preparation of the lesson, during the lesson they only responded to some problem because she was prepared in the sense of provoking an autonomous student profile.

For the analysis of the collected data the techniques of content analysis were used. It is a type of analysis that involves a set of techniques that enable the processing of the data collected, through the categorization that aims to differentiate and regroup elements according to defined criteria (Esteves, 2006). The categorization integrates two inverse processes: the procedure by "boxes", in which there is a pre-defined system of categories from the literature, or hypothetical theoretical functions, and they are best divided into the various elements that are found during the analysis; and the procedure by "mile", in which the categories of analysis are created as the data are analyzed, and therefore the title of each category is only defined at the end of the operation (Bardin, 1977). In the case of this analysis, the "mile" procedure was chosen, since the title of each category was defined at the end of the operation. From the data analysis two categories of analysis emerged: A) appropriation of contents in a transversal and interdisciplinary way; and B) the development of competencies, values and attitudes inherent to the profile of the XXI century student (Table 2).

Table 2. Analysis Categories

Analysis categories	**Indicators**
A) Appropriation of contents in a transversal and interdisciplinary way.	It refers to the construction and acquisition of curricular knowledge.
B) Development of skills, values and attitudes inherent to the profile of the XXI century student.	It refers to the development of personal and social skills (reasoning, problem solving, interpersonal relationship...), values and attitudes (freedom, responsibility, curiosity, participation...)

Source: Own authorship.

In the analysis and discussion of the data, the categories presented complement each other, and therefore throughout the text they will appear merged, since they were simultaneously in the various moments, because the students developed transversal knowledge and stimulated skills, values and attitudes.

Results & Discussion

We tried to understand the potential of the *Educaplay* digital platform in the development of knowledge, skills and attitudes in the student through interdisciplinary teaching paths. A summary table was built with the various functionalities of the platform used in some moments of these interdisciplinary courses and the skills developed with them (Table 3).

Table 3. Platform Functionalities and Developed Skills

Year of schooling	**Disciplinary Area**	**Execution**	**Skills developed**
3rd year (1st Cycle of Basic Education)	Study of the Environment The soils and the rocks	Using an image discovery app, present in the digital platform, students find senses and meanings that define curricular contents.	- Search for opportunities for involvement and self-development - Mobilization of previous knowledge - Intuition - Reasoning and capacity of visualization - Autonomy and curiosity - Empathy - Group identity
6th year (class 1) (2nd Cycle of Basic Education)	Portuguese Poetry Poem "A força das palavras" (The Strength of Words) by Luísa Ducla Soares	In a large group, the students complete the gaps in the poem by clicking on the corresponding application labels.	- Implication and motivation for real-time interaction - Reasoning - Information and communication - Critical and creative thinking
	Portuguese Creative Writing Title of a news item on April 25, 1974	Each pair of students writes the title of their news in the *Educaplay* application. Confrontation of the titles placed in the application by the students with the real title of the news.	- Cooperation and collaboration - Critical and creative thinking - Intuition (preview) and curiosity - Motivation - Argumentation - Demostration of attitudes
6th year (class 2) (2nd Cycle of Basic Education)	History and Geography of Portugal Pool Activity	Realization of a game using the *Educaplay* technological application, in which the students associated cards with images and cards with phrases, referring to the theme worked.	- Orality skills - Knowledge assessment - Capacity of critical and argumentative reflection - Demonstration of values

Source: Own authorship.

In the didactic course about the types of soils and rocks, in the 3rd year of schooling, a learning unit of contextual and horizontal articulation was built, in which different components of the curriculum were interrelated: Study of the Environment, through the main concepts (soil, types of soils and rocks and their daily uses); Mathematics, through the resolution of problems about area, perimeter and fractions; Portuguese with the reading and understanding of the text "João e o Pé de Feijão" (John and the Beanstalk), by Laurent Richard.

One of the moments of the lesson was used the functionality of the digital platform *Educaplay* "Guess what", in which the students would have to discover through clues with images the theme of the lesson (Figure 2).

By using this feature, students developed skills such as mobilizing previous knowledge "the eyes of the students revealed a willingness to say what they knew about the subject to be addressed and therefore were not afraid to show their ideas" (FN), since the previous knowledge of the students and the articulation of curriculum give meaning to the experience and sustains new knowledge (Graça, Quadros-Flores, & Ramos, 2019). The discussion about the possible lesson topic took place in a large group, and one student at a time would move to the computer and post the group's answer on the platform until they arrived at the correct answer.

Figure 2. Using the "Riddle" Functionality

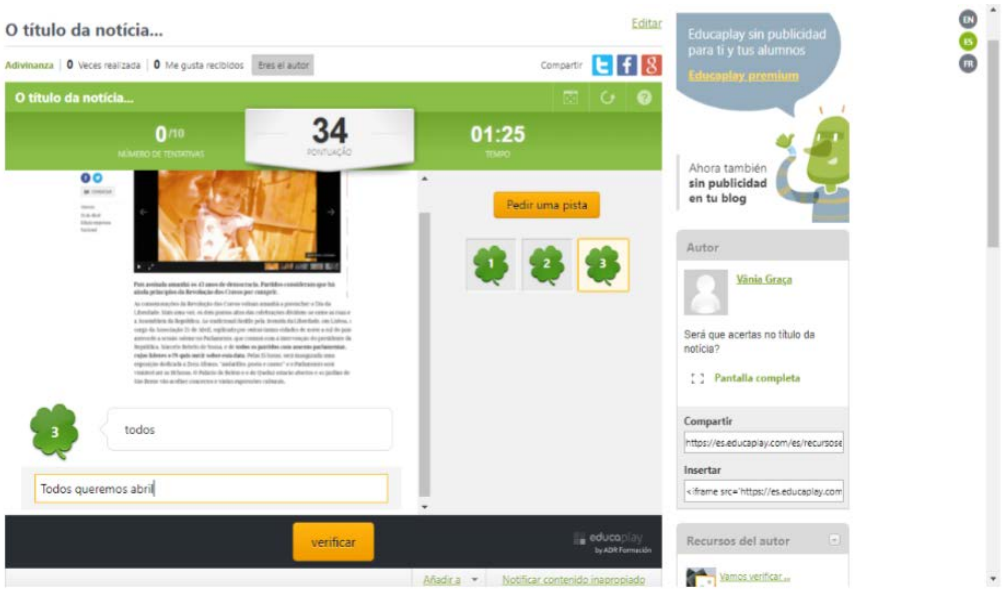
Source: Own authorship.

The reasoning and capacity of visualization, participation and motivation, intuition were promoted, since they were raising hypotheses about what the class theme could be, stimulating values and attitudes such as group identity "The students were excited to discover through the images the theme of the class. It was noticed that they didn't used to work in groups" (FN), the autonomy and curiosity "were so enthusiastic that they wanted to say their ideas and sometimes they got up from their place for that" (FN), the empathy. The platform integrated in an innovative teaching *design* favors the learning of curricular contents and the development of essential competences for the student, however, the organization of these learning paths implies, on the part of the teacher, a renewal of his educational practices (Quadros-Flores & Raposo-Rivas, 2017; Raposo-Rivas, Quadros-Flores, Martínez-Figueira, & Silva, 2019) and of innovative pedagogical, curricular management and technological solutions (Moran, 2004). Therefore, institutions of initial teacher training should promote, in supervised educational practice, the (re)construction of environments always bearing in mind the idea that the place of training is the place of the profession and the three faces of teacher training mentioned above (Nóvoa, 2019).

A didactic sequence of horizontal and vertical articulation was delineated between the 1st Cycle of Basic Education (Portuguese area, Study of the Media and Plastic Expression) and the 2nd Cycle of Basic Education (Portuguese area and History and Geography of Portugal), whose globalizing theme was the 25th April 1974.

In the didactic course for the 6th year of schooling, in the Portuguese area, with the theme of April 25, 1974, in which two classes were built. The first class explored the literary text "A Revolução das Letras" (The Revolution of Letters), of Vergílio Alberto Vieira, of the narrative type. In the second, the non-literary text, the news, was privileged, presenting to the students a news of the time about the 25th of April, working its understanding in the light of the programmatic contents of Portuguese and the historical facts of History. After her understanding, the teacher projected another piece of news, but with the title cut off, she prepared the students for creative writing. Each pair of students would have to write the title of their news, using the "Complete texts" feature of the *Educaplay* platform, taking into account the clues provided by the digital platform (Figure 3). Afterwards, there was the confrontation of the titles placed in the application by the students with the real title of the news. This practice allowed the application of previous knowledge, but also manifested the understanding of the content and creativity in the reconstruction serving as a basis for an eventual (re)creation of the text.

Figure 3. Using the "Complete Texts" Functionality

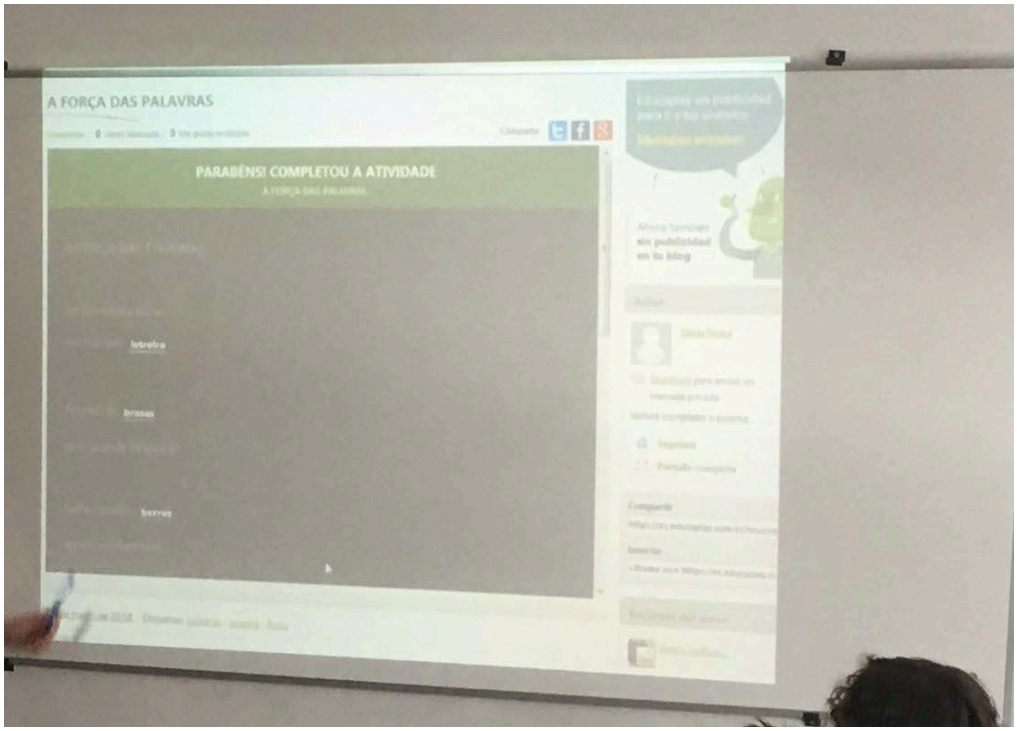


Source: Own authorship.

It should be noted that this creative writing activity developed students' skills of critical and creative thinking in an environment of cooperation among peers, initially of collaboration in large groups "The students were constantly creating new titles about the news, through the knowledge they had already built in previous classes, talking among peers and in large groups to try to get closer to the title" (FN). Therefore, it was verified that the students mobilized knowledge learned from other classes and disciplinary areas, in a transversal way, relating interdisciplinary knowledge. They developed their intuition and argumentation, both with the pair and in a large group. The teacher began to play the role of a guide in the construction of knowledge, as a "tool of the formative teacher" that mediates the construction of knowledge of his students (Castro & Zuin, 2018) and in which the student goes from consumer to constructor of knowledge "I was only the "spectator" and the students the "actors" because they self-regulated in their interventions, talking to each other in a respectful way, in such a way that I started only to mediate" (FN).

Another didactic path was developed in the 6th year of schooling, with the use of the same previous functionality, but with another pedagogical intention. The globalizing theme was the value of words, and for this, a didactic sequence of horizontal articulation of three classes was outlined. In the 2nd class it was intended to work the poetic text, with a look at word formation (prefixing and suffixing). To start the lesson, the poem "A força das palavras" (The Strength of Words) of Luísa Ducla Soares was projected, and the students would have to complete the gaps of the poem, clicking on the corresponding labels of the *Educaplay* application (Figure 4).

Figure 4. Using the "Complete Texts" Functionality



Source: Own authorship.

The use of this feature allowed the development of grammatical knowledge, in which it was important to make a path of understanding through dialogue with the students, using first a game from the individual to the collective, that is, from the unit to the whole, and then it was important to identify the concept of collective common name. In turn, the poem allowed the students to work on the rule of word formation, more specifically, making them identify the primitive word and the suffix of the word, for example, letter (primitive word) + eiro (suffix), ember (primitive word) + eiro (suffix). And for this reason, this platform helped the student in the construction of his knowledge (Rothman, 2013), we reinforced, in an intuitive and self-regulating way, also stimulating autonomy.

In addition, given the *Student Profile at the Exit from Compulsory School* (Oliveira-Martins et al., 2017), students also developed important skills such as critical and creative thinking, the reasoning "Students were able to quickly get to the words that were missing in the spaces, talked in large groups and discussed opinions, with great willingness to participate" (FN), so it motivated students and stimulated participation through interaction in real time. It is noteworthy that each learning acquires meaning when framed in an educational environment that involves students (Graça, Quadros-Flores & Ramos, 2019).

Finally, a didactic sequence of vertical articulation between the 1st and 2nd Cycles of Basic Education, Study of the Environment and History and Geography of Portugal, respectively, was built. The globalizing theme was the fishing activity. In the 2nd cycle, in the area of History and Geography of Portugal, as a way to consolidate knowledge, the functionality "Relate elements" was used, where

students would have to consolidate their knowledge by associating cards with images and cards with sentences (Figure 5).

Figure 5. Using the "Relate Elements" Functionality

Source: Own authorship.

With this activity, the students had actively and interactively evaluated their knowledge on the subject. "In this activity the students tested their knowledge and it was seen that they were motivated to prove that they knew how to respond. They were losing the shame of making mistakes and of speaking their opinion" (FN). This type of teaching and learning dynamics offers different options compared to lecture, through interactive games to develop disciplinary content by proposing more motivating activities for students (Castro & Zuin, 2018). The students have developed their critical and argumentative capacity, as well as their orality, which are fundamental to the formation of the citizen of tomorrow.

The students also demonstrated some values such as respect for others, cooperation and collaboration "The students respected their turn to intervene in the activity, as well as the responses of their colleagues, regardless of whether they knew they were wrong or not" (FN), values that meet the profile of the student (Oliveira-Martins et al., 2017).

Conclusions

The integration of digital platforms in the *design* of interdisciplinary pathways between school cycles and areas of knowledge is currently a challenge for teachers, particularly for teachers in initial training who have the opportunity to know and experience resources, methodologies and strategies that lead to new ways of teaching and learning in the XXI century. Through the didactic paths of vertical articulation and horizontal articulation using the *Educaplay* platform, it was possible to see some of the many potentialities of some of its functionalities.

In this sense, it was verified that this platform allowed the development of curricular knowledge, stimulating the main substantive concepts of each globalizing theme, but also the promotion of skills, values and attitudes conducive to the profile of the XXI century student.

Thus, digital technologies, such as digital platforms, must be problematized and integrated into educational practices as pedagogical tools that bring added value to the learning process and stimulate self-confidence, the achievement of skills, understanding of knowledge, reflection and argument in communication among other essential skills for the citizen of tomorrow.

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Mask Usage and Drama Teacher Understanding in Australia

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This paper presents the research and findings of how some Australian teachers of Drama engage with masks in the classroom. It is part of a larger research project looking at the potential impacts for masks and education in the Australian curriculum. With masks both synonymous with Drama, and multiple resources available for teachers to engage with masks in the classroom, there was no empirical data on if and how teachers in Australia engaged with masks in the classroom. This research asked teachers to self-report on both their skill level in mask usage and to the extent that they engaged with masks in the teaching of Drama in the classroom. Findings note that whilst the majority of teachers did engage with masks; some quite extensively; many staff indicated their own limitations in training and in foundational theory. In addition, many staff used their own time and resources to upskill themselves, placing an importance of the potential for mask usage with children. This has implications for university education courses, as well opportunities for systems and professional development providers in supporting teachers of Drama in their skill base.

Keywords: masks, drama, education, teachers

Introduction

Whilst there is a plethora of material regarding the purpose and role of masks in history, performance, and performance pedagogy, there remains little information pertaining to the role of masks in schools. This research study was designed to ascertain how teachers use masks in their practice.

In education, masks have been applied using the theories of a multitude of practitioners, such as Meyerhold, Brecht, Grotowski, Lecoq, and Brook (Mackey & Cooper, 2000). They are mentioned as potential learning topics in the formal school system curricula (Board of Studies NSW, 2003, 2008, 2009; Queensland Studies Authority, 2013; Victorian Curriculum and Assessment Authority, 2016, 2017b). Many of the major drama teaching texts used in Australia (for example, Baines & O'Brien, 2005; Bird & Sallis, 2014; Burton, 2004, 2005; Clausen, 2016; Roy, 2009) have sections referenceing mask usage in the classroom, offering suggestions as to forms of teaching and engagement.

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Context

The Australian Curriculum

Australian curriculum documents, both state and the new national Australian curriculum, are the basis from which teachers and schools plan their curriculum implementation. Therefore, any curriculum document statements in relation to masks will have an influence upon mask usage. There is limited requirement in Australia (ACARA, 2015b; Board of Studies NSW, 2003), or internationally (Ministry of Education Ontario, 2010; Scottish Qualifications Authority, 2015), for masks to be used either as a pedagogy or a knowledge form. The absence of a curriculum mandate on the use of masks in schools' contrasts with the frequent use of masks by twentieth/twenty-first century theatre practitioners as a training tool for performance (Gordon, 2006; Hodge, 2010). Based on this expert usage, it follows that masks could and feasibly should be embedded in drama curricula, but more research is needed to make this case. As it stands, too little is known about how and why individual teachers implement the use of masks in their classrooms. More also needs to be known about how mask work impacts on student achievement; and broader educational and personal outcomes have also yet to be fully researched. The concepts of 'how' to apply masks are examined through theoretical, historical knowledge or specific contextual application of 'mask' units of work (Moreland & Cowie, 2007; Roy, 2015), but the impact or reasoning of 'why' masks might be used appears to be too often absent. Thus school-based research into the pedagogical use of masks is required.

The Arts in the Australian Curriculum (ACARA, 2015a) makes one single reference in Drama to masks in the Years 7 and 8 outcomes, and this is only a mention in the context of a design element (ACARA, 2015a, p. 80). In the New South Wales Board of Studies Drama Years 7-10 syllabus, there is little reference to masks, however, for Outcome Stage 5 one of the areas for potential learning in play building is Commedia dell'Arte. Elsewhere, there is also reference to Greek theatre as a source of tradition and history with which students can engage, but there is no reference to masks in this context (Board of Studies NSW, 2003, p. 21). The Queensland Studies Authority offers mask as one of several examples of engaging with drama (Queensland Studies Authority, 2007, p. 18).

In Victoria, the curriculum applicable to this study is The Arts: Drama F-10. Like the other syllabi, such references are very scant and are not directed areas of study or learning. What is different is that the Levels 7-8 example offered for Indicative Progress uses masks for the exemplar. There is no other specific reference to masks in The Arts: Drama F-10 curriculum document. Interestingly the Victorian Languages Curriculum document has four references to using masks as a tool for students to support language development (Victorian Curriculum and Assessment Authority, 2017a & 2017b).

It is important to re-iterate that in all four curricula examples given, from ACARA, NSW, Queensland and Victoria, mask usage (however limited) is suggested as an exemplar of practice, but is never required. In addition, the fifth

example lists masks as a stagecraft rather than a performance tool or skill, similar to ACARA. However, it appears that many secondary school teachers do engage with the 'recommended' curricula suggestions as most of the Drama teacher's associations, such as Drama Victoria and Drama NSW, publish articles on teaching mask activities (Murphy, 2007). Additionally, they regularly offer mask workshops, particularly with a focus upon Commedia dell'Arte.

The two dominant mask areas referred to in secondary education curricula are Commedia dell'Arte and Greek theatre. Although there are many mask chapters, sections and references in the main text books on drama, as used in Australian secondary schools, it is unknown as to which of these texts have influence, if any, across which systemic education bodies in Australia. Most of these texts offer activities for students to undertake, but they contain no detail on actual current teaching practices in Australian secondary schools (Baines & O'Brien, 2005; Burton, 2004, 2005, 2011; Clausen, 2016; Gauntlett & O'Connor, 1995; Roy, 2009; Stinson & Wall, 2003; 2005; Tourelle & McNamara, 1998). It is clear that secondary school education recognises the potentiality in learning through mask work for Drama and Theatre Studies students in the classroom. However, it cannot be assumed that teachers of drama actually engage in mask work as a form of teaching, whether in a practical or a theoretical sense.

The Arts

Although masks fall into the domain of drama, it in turn is part of a wider arts umbrella, such that masks cross the boundaries of arts based education. As a central part of human existence, the arts are a natural part of children's worlds, and they enjoy and value the arts in their daily lives (Barrett & Smigiel, 2003). In addition to cultivating many important dispositions that are of value in life and in other areas of learning (Bryce et al., 2004; Deasy, 2002; Ewing, 2010), the arts are central to the development of children, because they occur through the senses, rather than linguistically or mathematically. 'We make sense through our senses, and thus we give meaning to our reality' (Sinclair, Jeanneret, & O'Toole, 2009, p. 7).

The arts sustain confident and creative individuals, nurturing and challenging active and informed citizens. Children must first think and act through their senses as artists in order for them to value and engage meaningfully with the arts in their lives and learning. The vision, based on this premise, is that secondary school contexts provide children with an education in the arts that gives them a sense of agency: that is inclusive of all five art forms (dance, drama, media arts, music and visual arts), that is culturally situated, and that is sustained over time and supports their developing identities.

Therefore, for masks and arts education in general to have an impact, this research seeks to address this through the usage of masks, allowing for a 'praxial' vision for the arts in education. According to Bernstein (Bernstein, 1999) the Greek term 'praxis' has an ordinary meaning that roughly corresponds to the ways in which we now commonly speak of 'action' or 'doing'. It is frequently translated into English as 'practice' and corresponds to 'a form of truly human activity'. The

use of the term praxis may be traced back to the ancient Greeks and Aristotle, and questions surrounding praxis have been considered by philosophers including Hegel, Marx and Dewey (Bernstein, 1999). Praxis has most recently been associated specifically with education through the work of Freire (Freire, 2017), who originated from the Frankfurt School and Critical Theory tradition, in the context of education as a means of human transformation and liberation, and refers to 'action' or 'practice' in an area of human activity. Praxis refers to 'doing' a human activity and all that this involves. In the arts this means understanding the arts as a particular form of human endeavour in all of its different contexts, meanings and practices.

Alperson (1991) relates praxis to art, and maintains that it is an attempt 'to understand art in terms of the variety of meaning and values evidenced in actual practice in particular cultures' (Alperson, 1991, p. 233). For Alperson, cultural context relates to the actual 'practice' of art in specific cultures. Elliott (1995), when writing about music education, maintains that music as praxis revolves around music as particular kinds of human doing-and-making that are purposeful, contextual and socially-embedded. For these authors, praxis refers to 'action' in the sense that the action is an intentional, conscious and culturally determined human activity. Thus, in the embodied learning experience, adolescent children can explore identity whilst understanding the world and accessing the curriculum (Roy, Baker, & Hamilton, 2019).

Praxis is also defined in educational terms by Kolb as a process of cyclical learning using reflection (Woolfolk, 2013) Freire takes this further and discusses praxis and reflection being a politically empowering tool in education (Freire, 2017). However, in this research, the focus of praxis is derived from a theatrical/ arts-based perspective originating from the Greek definition.

Drama Education

Given that drama may contribute to social development and educational impacts, as shown by the work of Geese Theatre (Baim, Brookes, & Mountford, 2002), it is surprising that empirical examination of the implementation of drama as a pedagogical tool still remains underdeveloped. A key exemplar of this is the methodologies of using drama with offenders who have been institutionalised, and the impact it has upon those individuals and their sense of identity and place in society (Baim, Brookes, & Mountford, 2002; Smith, 1984; Wilsher, 2007).

A meta-analysis of arts research was published in a special edition of the Journal of Aesthetic Education (Winner & Hetland, 2000). This explored many of the academic assumptions of art's impact on learning and, whilst it revealed correlations to learning achievement in different domains, in the majority of cases empirical research was only able to ascertain limited or no causal relationships.

> Correlation is not Causality. First, it is important to distinguish between correlations from causal claims. Many studies demonstrate that students who choose to study the arts are higher academic achievers than those who do not choose to study the arts. However, we can conclude nothing from this finding about whether or how arts education **causes** improved academic performance (Winner & Hetland, 2000, p. 5).

Wright and Pascoe have written further on the wider mental and social benefits that drama and arts learning bring to the individual (Wright & Pascoe, 2015).

> The Arts offer both tools for inquiry as well as expression; they offer both depth through linking cognition, affect and somatic ways of knowing, and breadth through multi-modal forms for sharing and engaging with diversity of viewpoints, experience, ideas and visions. In this way, participants are linked through sharing what is life affirming and what has meaning (Wright & Pascoe, 2015, p. 296).

When coupled with the ideas of masks as a social anthropological or ethnographic study, the possible role of the mask, and their power in delivering the arts to students, is apparent. Adding the sociological influence of the mask, and its potential in education and the arts, there is a clear correlation between identity exploration and mask exploration in the classroom.

> Masking allows the individual to act on the wish or need to express "I am not myself", and by the communal endorsement of the larger deception that "we are not ourselves", humans could bridge the gap with nature ... Play allows for the improvisational, the unexpected, leaving the spirits of people open to new and sometimes very useful discoveries. Through the deception of the masquerade, people could act without being emotionally driven by the direct and sometimes terrifying experience of nature. Establishing a second nature – a virtual reality – allowed people to confront culture/ nature and reinvent identity as mutable nature, and masked humanity continued to dance (Nunley & McCarthy, 1999, pp. 38-39).

One of the core learning processes in all drama curricula in Australia is improvisation leading to play building (Schneider, Crumpler, & Rogers, 2006). At the same time, many practitioners from Europe in the twentieth century developed an interest in applying knowledge and techniques from Commedia dell'Arte, particularly improvisation and play building. It is of no surprise, therefore, that whilst not mandating a study a Commedia dell'Arte, the written curricula actively 'encourage' the serious study of Commedia and mask work, but it is not mandated (Board of Studies NSW, 2003; Queensland Studies Authority, 2007; Victorian Curriculum and Assessment Authority, 2017a; 2017b). It is therefore possible for a teacher of drama or theatre studies in Australian secondary schools to never be required to teach any element of mask. This is still the case with the new Australian Curriculum, The Arts (ACARA, 2015b), where no area of mask work is prescribed.

Masks and Education

Whilst there is a growing variety of reading on performance-based masks work, academic education texts on teaching in the arts make scant, if any, reference to masks (McCaslin, 2006; Morgan & Saxton, 1987; Neelands & Dobson, 2000; Posten-Anderson, 2008; Sinclair, Jeanneret, O'Toole, 2009; Somers, 1994; Wright, 2003); and masks are often focused more upon in relation to their creation as an artefact rather than a performative object. Educational drama texts from both the

United States and the United Kingdom have at times chosen to minimise the use of masks in the classroom.

> The mask, though less versatile, is closely related, serving many of the same purposes (as puppets) (McCaslin, N., 2006, p. 140).

> It is unlikely that all the masks made by a class will 'work' (Somers, 1994, p. 44).

The relationship to the arts and drama of non-academic outcomes is clear, though the separation of the two, academic and non-academic, is open to question (Batdi & Batdi, 2015; Özbek, 2014; Podlozny, 2000). What is clear is that self-esteem, life satisfaction and a sense of purpose and meaning are supported through engagement with the arts and with drama (Rose-Krasnor Busseri, Willoughby, & Heather Chal, 2006; Shanahan & Flaherty, 2001).

> There is a visible impact of creative activity on the development of an individual's self-creation. The ability to experience oneself as an object of creativity is the condition for a creative attitude. It is assumed that as a result of creativity and through creativity a child may enrich knowledge of themselves, gather positive experiences from their own actions which in turn enhances their positive self- esteem (Galaska, & Krason, 2011, p. 5).

Drama, as applied through a constructivism perspective, can also be used as a pedagogical tool through the self-discrepancy theory (Cole, 1996). Self-discrepancy theory is an aspect of self-concept or identity. It is an understanding of the relationship and differences between:

- How I see myself.
- How I ideally like to be.
- How I think I should be.

This is important as it recognises and validates the sense of self whilst opening up the potential for other's sense of self-identity (Austin, 2005; Woolfolk, 2013). It forces the individual to not only recognise the possibilities but, if applied with the two cognitive dimensions of the theory, domains and standpoints, then the individual can explore alternatives and make informed choices. Drama is recognised as having a significant impact on an individual's self-discrepancy, through its use of making (Wright, 2006).

The domains of the self are the foundational basis of Self-Discrepancy Theory – actual, ideal and ought self (Wright, 2006). Standpoints or self-representations of the self are positional aspects of who we are and who others are being. When we link this to the theories of mask as representing the 'other' and tie this to drama pedagogies, such as invisible theatre (Boal, 1998) or other role-playing techniques, the potential for harnessing the self-actualisation of students in the classroom is apparent.

> The question of whether actors should work on a role from the inside (through emphatic identification with the character's psychology) or from the outside (by manifesting character through physical imitation of observable social behaviour) was rendered irrelevant in Saint-Denis's work with neutral masks. Such an inner/outer dichotomy often troubles actors who train in Strasberg's Method but spend most of their working life having to act to order as a consequence of the technical requirements of stage, television, or film. Mask was to teach the student actor an improvisational process that integrated the consciousness of aesthetic form with the experience of subjective impulse in performance. By developing a corporeal economy appropriate to expressing the personality of the mask, the student would acquire a physical discipline that prepared him for the performance of a wide range of dramatic styles (Gordon, 2006, p. 163).

Anthropologically, the mask has been used as one method to support an understanding of identity and our place in society, and, to quite an extent, it still is (Alexander, 2015). With identity formation and development having a considerable impact on adolescents (Erikson, 1980), coupled with theatre practitioners' application of masks in actor training and performance development throughout the ages (Hartnoll, 1998), it is apparent that masks have the potential to be valuable 'found' objects to use within the classroom (Roy, 2016a). Textual evidence of both curriculum application (McCaslin, 2006) and supporting students with recognised needs (Bundy, Land, & Murray, 2002) also indicate that masks can be used within educational contexts and thus potentially benefit students. To what extent this is the case in Australia is the question.

Drama offers the potential to create successful students and productive citizens. If society wants to harness all their students' potentials and improve their results beyond the limitations of standardised testing, it needs to consider how the curriculum can support not only academic success but also the wider health and emotional outcomes required for students to become successful participants in society, not marginalised. It is interesting to note that, in the most successful education systems in the Northern Hemisphere, drama is an integral part of the curriculum (Cziboly, 2010).

Theatrical practice is distinct from educational practice, though theatrical practice helps to inform the rationale and possible impacts and resonances of drama in education. Masks have been shown to develop a performer's physicality and control (Grotowski, 2002; Leiter, 1991; Saint-Denis, 1982). Through analysing drama in classroom contexts, it is possible to delve into the impact of mask usage on the psychology and developmental learning of adolescents (Roy & Ladwig, 2015). The part that the physicality of mask usage plays in learning and development is of special interest in general classroom contexts. One specific area of focus in the current study that has developed through the research is to investigate the implications of mask usage for students with a specific learning difficulty linked to fine and gross motor skill challenges (Rawal, 2010; Roy & Dock, 2014), in particular dyspraxia, given the physical coordination challenges it presents without intellectual disability (despite it being classified as a neurological 'disorder'). It has been shown that drama potentially has a positive effect on those with such a disorder, whether it be dyspraxia, and/or on those with a comorbidity

such as dyslexia, a developmental language disorder and, indeed, some autism diagnoses, due to the physical praxis focus involved (Roy, 2020).

Masks demonstrate that they can have an embedded place within education in its widest form in society to advance the concepts of humanity. It is not known whether masks are being used within the curriculum which therefore leads to the key question of this research: what methods of mask usage (if any) do teachers teach and use in the teaching of Drama and Theatre Studies in Australian secondary schools?

Methodology

Adopting a Constructivism lens, the research asked teachers to self-report any usages and engagement with masks and their students. That is not to discount the role of curriculum documents. Directives, and potentially more importantly, suggested implementations of requirements (though not mandated), may well influence pedagogical practices in secondary drama.

It is important to note that educational research, and indeed humanities research (this study is easily encompassing both) have specific challenges of recognition in the wider research and academic community. The challenge of the research to have predictive power is as important in education as it is in science research (Weiman, 2014).

> Applying this standard does not mean it is necessary to accurately control and predict how every specific student will behave or learn, any more than we can control and predict how every single atom will behave in a physics or chemistry experiment. It means only that one should be able to predict some meaningful measurable outcomes (Weiman, 2014, p. 13).

For the initial data collection, the researcher decided to use s survey research method in the form of a mixed method survey that contained numerical based questions (quantitative) and open ended questions (qualitative). The purpose of the questionnaire was to provide a snapshot of the population study at one particular time. There were several challenges in selecting the respondents.

Australia is a large country with six states and two territories. As it is a federally based nation, each state and territory currently have different curricula. To enhance the study's feasibility the researcher decided to focus on the three most populated states, where 75% of the population exists, namely Victoria, New South Wales and Queensland. With a combined population of 17.7 million, there are 1,187,000 young people aged 15-19 in this combined region (ACARA, 2016). This age group is critical to the study as, whilst drama is taught across all age groups, at certificate level learning, there is a requirement for teachers to have specific knowledge content qualifications. Whilst there is in place a national curriculum that is still to be implemented fully by any state or territory, these three states (New South Wales, Victoria and Queensland) arguably have the more dominant education bodies and curriculum authorities, again due to the large proportion of the population of Australia concentrated in these areas.

With Australia having a large geographical setting and a variety of school systems to engage with, attempting to develop a random, representative sample was not feasible and would never be achievable in the time frame allotted for the study. Instead, the decision was made to ask for volunteer responses through the professional state bodies for drama teaching, namely Drama NSW, Drama Victoria and Drama Queensland. These three state bodies are part of the wider umbrella organisation Drama Australia. Individuals need to actively choose and pay to become a member of their state body (which offers automatic membership) of the national umbrella body. It was assumed that any response from participants chosen from these bodies may offer more engaged and positive applications for pedagogical practices due to the fact that they have actively chosen to engage in wider professional development through opting to join their state professional body of peers. The purpose of these professional bodies is to promote and develop drama teaching within schools, and all members benefit from access to resources and training. Therefore, to be a member it must be assumed that such teachers wish to actively develop their professional practices.

An email requesting volunteer participation was sent through the email/web pages of each of the three state drama associations. The associations (not the research group) sent the email to ensure privacy. The email included a link to an online questionnaire that was hosted by *SurveyMonkey* (www.surveymonkey.com). Participants could access the survey only once.

The use of this process offered both benefits and challenges. Cross-sectional studies are useful in measuring the specific actions, attitudes and behaviours of a given group of people (Aveyard, 2010), such as teachers of drama. The use of electronic forms of surveys are beneficial in that they allow immediate access for participants who can link from the initial email contact to the survey, and the data is available immediately on completion. The participants need to exert no additional effort to return the survey if the web address is included within the response request (Shih & Fan, 2007). The use of a mixed mode of a postal mail and web-based systems must be balanced against the cost and resource requirements of implementation. In the mixed-mode surveys, where respondents were offered both of the response options (i.e., Web or mail survey response modes) at the same time, there was no statistically significant difference between mail and Web survey response rates (Shih & Fan, 2007).

Professional bodies for drama teachers provide support for staff in what are usually small departments of one or two staff. This survey achieved a response of 48 participants (9.6%) for the surveys, with 29 reporting they had been trained in the use of masks. This is acknowledged to be a small sample, but is considered acceptable given that the small size of the curriculum area (with only 500 members across the three states chosen) narrowed the focus down to the specialised content area of masks, and the purely voluntary nature of participation would have inevitable impacts. The positive aspect is that even this small sample has the potential to make important inroads as the first study of mask usage in classrooms in Australia with the potential to support wider-based analysis if the findings indicate benefits for student and learning progression through the use of masks.

This survey included both objective (closed response) and subjective (open-ended) response formats from a total of 32 questions. The objective questions sought details concerning qualifications and general teacher background; professional experience; courses and programs taught, and the resources used. The open-ended question typically followed an objective stem question. For example, the objectively framed question 16 asked, 'Would you choose to attend further courses?' (Yes/No) was followed with an open-ended question, 'Please briefly state reasons for your answer to question 16' (followed by three blank lines). Both formats were self-reporting and subject to respondent interpretation (Stenhouse, 1975).

The initial survey sought specific quantitative data in relation to teacher knowledge of masks from higher education training as well as professional development. Respondents were also asked to offer qualitative responses in relation to their confidence in using and understanding mask work. The purpose was to understand teacher perceptions of masks as a form of knowledge, including from the historical and performance viewpoints, and their understanding of the use of masks as a pedagogical tool. Mnouchkine and many other theatrical practitioners (Hodge, 2010) demonstrate that masks can be used in training as a process, not only as an end result. None of this intends to diminish the need for teachers to have a depth of knowledge to support pedagogy (Ladwig, 2008). Teacher knowledge in itself, whilst important, is not seen as the major factor in teacher impact upon student engagement and achievement (Bransford et al., 2005). It is the ability of the teacher to adapt pedagogical approaches to meet the students' needs, rather than just provide knowledge, that has impact (Hattie, 2008).

The questions from the survey were derived from the gaps in the literature, as well as an analysis of mask connections to the various Australian curriculum based on the researchers' two decades plus of international experience in Drama Education. The questions were peer reviewed.

Descriptive Analysis

The responses regarding the distribution of genders were eight male and 40 female respondents from a total of 48. No respondent self-identified as being of Aboriginal or Torres Strait Island descent, although one respondent did not answer this question. Twenty-two respondents stated that their initial teaching qualification was as part of an undergraduate degree, and eight of these teachers were those who identified as primary specialists. Thirty-one respondents stated that they had a diploma or Masters qualification in teaching and 26 of these were initial teaching qualifications, with five having undertaken further diploma work (Table 1).

Table 1. Qualifications

Accelerated teacher training qualification	0.00%	0
2 or 3 year teacher qualification	4.17%	2
4 year education/teaching qualification	41.67%	20
Bachelor degree other than education	41.67%	20
Diploma in Education	22.92%	11
Postgraduate certificate or postgraduate degree	35.42%	17
Masters in Teaching	4.17%	2

In addition, 10 respondents had completed a Masters in Education or another subject area, with eight specifically in Education (Table 2).

Table 2. Additional Qualifications

Masters in Education	16.67%	8
Masters in another academic subject	4.17%	2
Doctorate in Education	0.00%	0
Doctorate in another academic subject	0.00%	0
Other degree	2.08%	1

With most respondents teaching in the secondary sector, it is interesting to note that of the 41 respondents teaching secondary, only 17 (35%) had taught all Years 9-12. This raises questions as to the provision of drama across the continuum of learning in Australian schools in regard to which further research may be of use.

In terms of mask usage, five of the nine primary respondents (55.6%) used masks in their teaching practice. One primary teacher did not respond to this question. Twenty-nine of the 39 secondary respondents (74.4%) used masks. Seven secondary teachers did not respond to this question.

Of the 48 respondents, 29 (60.5%) stated they had undertaken mask training in their teacher training courses. In addition, 26 respondents (53.5%) had undertaken additional mask training, the majority of which was not provided explicitly by their education body but through conference attendance. Nineteen (39.5%) had undertaken no training in masks whatsoever and, of those, five (10%) engaged with masks in the classroom but had no specific training in their usage.

Table 3. Teacher Confidence in Mask Usage

Response	**Percentage**	**Number**
Yes	65.85%	27
Not sure	14.63%	6
No	17.07%	7
n/a	2.44%	1
Total responses		**41**

Teacher survey respondent comments to Q16, 'Would you choose to attend further courses (specialist courses/workshops in mask usage/work outside of your qualification)?' were as follows:

> *PD helps you to know certain traits of movement associated with the mask or background information.*
> *Too long ago and not enough time in workshop.*
> *The works briefly completed at university were practical workshops that enabled me to realise how the mask can assist in character development.*
> *Clarified method for engaging with mask and creating character.*
> *I generally bring in an expert to teach masks when needed for a production. I would like to have more knowledge to enable me to teach mask work.*

There was a direct association in participants responses between confidence in using masks (Table 3) and the uptake of using masks; with those that had training either during their pre-service course work or through in-service/workshop attendance. Respondents who had mask training also noted confidence in mask usage. In addition, of the 30 extended responses, three specifically connected the specialist courses/workshops to general drama teaching.

> *Mask is a fantastic way for students to view drama and the world through the eyes of 'the other'.*
>
> *The works briefly completed at university were practical workshops that enabled me to realise how the mask can assist in character development.*
>
> *Clarified method for engaging with mask and creating character.*

An additional teacher survey respondent comment to Q23, 'Are there any additional comments you would like to make in relation to this topic?' was:

> *I think that if I had more mask training, I'd use them more frequently in my classroom to teach drama/theatre skills and theory.*

Mask Usage

Of the 41 respondents who reported they use masks as part of their teaching, only 32 (78%) reported using physical masks in their classrooms. From this, it can be assumed that, for nine (22%) of the respondents' students, mask work is studied at a purely theoretical level.

The resourcing of masks and text usage is varied for those who use actual masks within their teaching. Three (4.9%) respondents only use masks created by their students as part of their classroom activities. However, 25 (51.2%) of those who bought masks also engaged in mask making activities with their classes. The sourcing of purchased masks varied. The largest source is from specialist mask makers (47.4%). Specialist party/costume shops were used by 14 (29%) respondents, and low-cost, general goods stores were used by 10 respondents (21%).

> *It's not sourcing the masks - it is the COST of the masks. Plain white masks are very cheap; Commedia dell'Arte masks are very expensive*. Teacher Survey Respondent
> *I had very little knowledge of mask use in a class room and have had minimal resources and even less storage for them*. Teacher Survey Respondent

With regards to texts, 34 (70%) respondents use 'Living Drama' (Burton, 2011), with Centre Stage (Clausen, 2016) and Acting Smart (Bird & Sallis, 2014) also being used widely, but this is specific to different states in the sample (Living Drama – QLD; Centre Stage – NSW; and, Acting Smart – Victoria). The authors of these texts have strong connections with those specific states and their professional bodies representing drama teachers. For staff that had no formal or informal training with masks use, there is on average five pages of content related to mask

usage, which is a meagre 2% of the total text content. Of the five most used texts with a collected number of 1033 pages, there is a total of only 33 pages dealing with mask content, nineteen of which are found in Centre Stage alone.

Of the respondents who stated that they used physical masks in the classroom (as opposed to only theoretical/abstract engagement with mask knowledge), the majority were in secondary classes, Years 9-12 (31 of the 32). Only one respondent out of nine primary teacher respondents reported that they used physical masks in the primary context. There was no answer provided by seven respondents.

Drama Learning Topics

Masks are used in a variety of learning topics with the teaching of Drama. One point of interest in the data was the disconnected nature of different mask topics, with some teachers touching on some mask topics but ignoring others. This suggests that, for some teachers, knowledge and the use of mask is partial or siloed. As an experienced drama teacher, I looked at those multiple topic areas in the Curriculum F-12 that had the potential for mask usage in teaching and developed a tale of topics (Table 4), whilst crosschecking with curriculum document content suggestions and Australian drama teaching text books.

Table 4. Mask Usage in Drama Learning Topics

Drama Learning Topic	**Percentage of 35 respondents**	**Response no.**
Improvisation	54.29%	19
Playbuilding	48.57%	17
Characterisation	42.86%	15
Commedia dell'Arte	88.57%	31
Greek Theatre	68.57%	24
Physical Theatre	51.43%	15
Voice	14.29%	5
Movement	60.00%	21
Stanislavski	2.86%	1
Meyerhold	0.00%	0
Brecht	31.43%	11
Boal	2.88%	1
Brook	0.00%	0
Lecoq	17.14%	8
Suzuki	11.43%	4
Street Theatre	14.29%	6
Verbatim Theatre	5.71%	2
Tragedy	14.29%	5
Comedy	17.14%	6
European Theatre	5.71%	2
American Theatre	2.88%	1
Australian Theatre - traditional or Contemporary	0.00%	0
Aboriginal and Torres Strait Islander Theatre	0.00%	0
World Theatre	17.14%	8
Asian Theatre	28.57%	10

Masks as a tool are used in Greek theatre and Commedia dell'Arte, and the responses reflected this in that 33 (69%) engaged with masks and Greek theatre and 43 (89%) with masks and Commedia dell'Arte. Generally speaking, masks were not used within the teaching of either comedy (17% of respondents) or tragedy (14% of respondents). This is despite the importance of Commedia dell'Arte, which literally means the Art of Comedy, and is the basis of many comic precepts that is still widely used today (Griffiths, 2004), and the fact that Greek theatre, as the basis of tragedy theory as well as comedy (Kitto, 1961), use masks. A no point in the responses did staff link these separate knowledge areas in their responses. This is particularly significant, because in New South Wales, when studying tragedy, students have to study Greek play texts from a performance point of view as required by the course prescriptions (Board of Studies 2008). A series of question responses used a Likert scale of one to six to elicit more nuanced responses, with the opportunity for respondents to add in additional qualitative comments. The data collected had ordinal value in that the order mattered though not the specific difference within the Likert scale.

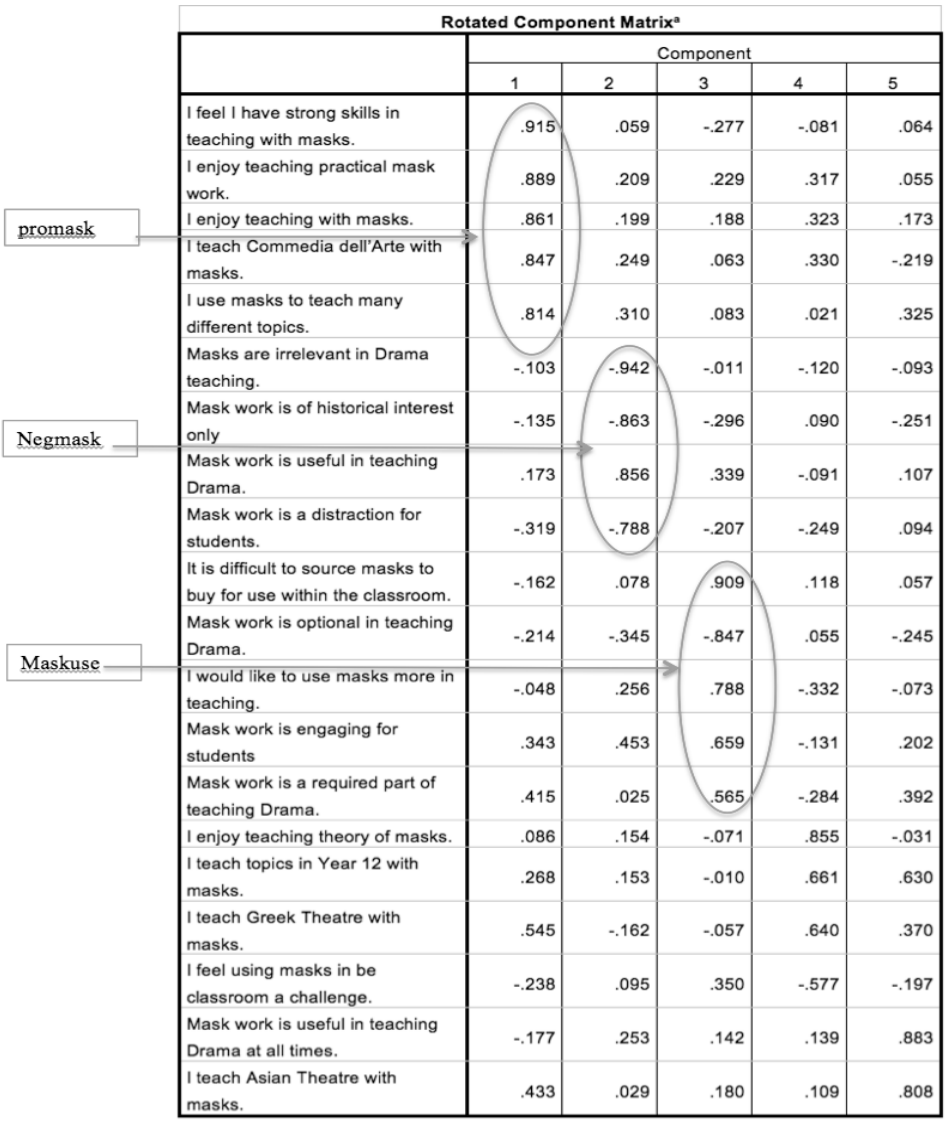
The respondents made the following comments in relation to mask usage with specific learning topics:

> *Practice in the use of Commedia and Basel Masks has meant that I have been able to confidently teach using these resources. Extended to movement units - mask units - history, productions etc*.
>
> *Great understanding of 'neutral mask' and commedia*.
> *More confident in Commedia dell'Arte; more knowledgeable in mask making; More knowledgeable in teaching history of Mardi Gras*.
>
> *I've explored a wide range Commedia, neutral, character, Balinese*.
> *Commedia is all about using the mask to create the character. PD helps you to know certain traits of movement associated with the mask or background information.*
>
> *Explored different styles (Commedia, Noh)*.

An exploratory factor analysis was undertaken in *IBM, SPSS Version 23* using a Varimax rotation with Kaiser Normalization that converged in seven iterations (Figure 1). There were three key areas of mask found through disposition and application: pro-mask usage dispositions, negative mask usage dispositions and general mask usage topics. Negative mask usage correlations were reversed to positive, to allow for comparison.

There was a positive correlation between those teachers that had positive views towards masks in the classroom, the amount of training in masks received and their engagement with them, and those who interpreted more negative aspects of mask usage in the classroom and who had less mask training and usage.

Figure 1. Teacher Responses to Mask Usage (Rotated Component Matrix)

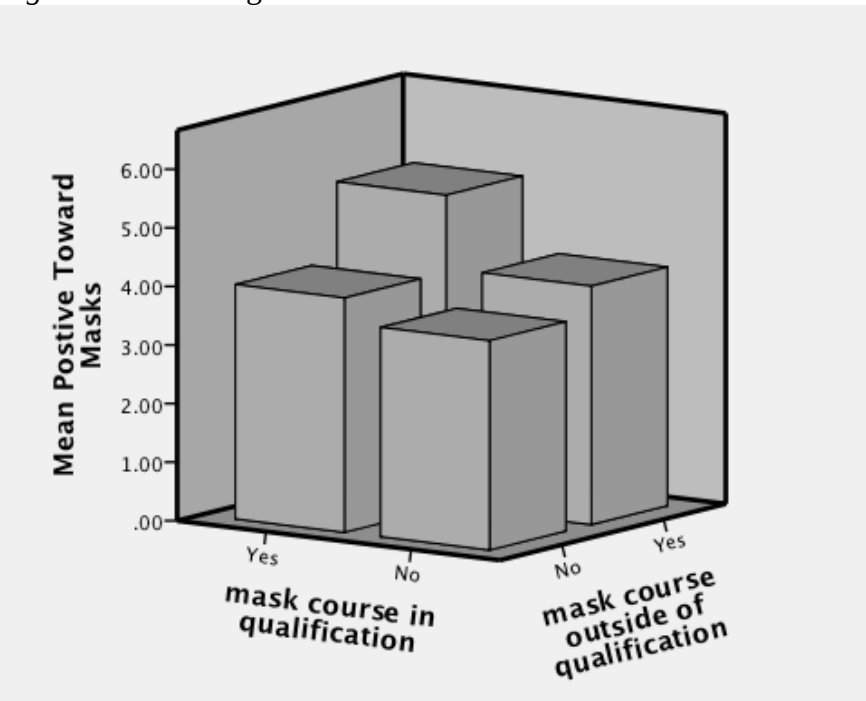


Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
I feel I have strong skills in teaching with masks.	.915	.059	-.277	-.081	.064
I enjoy teaching practical mask work.	.889	.209	.229	.317	.055
I enjoy teaching with masks.	.861	.199	.188	.323	.173
I teach Commedia dell'Arte with masks.	.847	.249	.063	.330	-.219
I use masks to teach many different topics.	.814	.310	.083	.021	.325
Masks are irrelevant in Drama teaching.	-.103	-.942	-.011	-.120	-.093
Mask work is of historical interest only	-.135	-.863	-.296	.090	-.251
Mask work is useful in teaching Drama.	.173	.856	.339	-.091	.107
Mask work is a distraction for students.	-.319	-.788	-.207	-.249	.094
It is difficult to source masks to buy for use within the classroom.	-.162	.078	.909	.118	.057
Mask work is optional in teaching Drama.	-.214	-.345	-.847	.055	-.245
I would like to use masks more in teaching.	-.048	.256	.788	-.332	-.073
Mask work is engaging for students	.343	.453	.659	-.131	.202
Mask work is a required part of teaching Drama.	.415	.025	.565	-.284	.392
I enjoy teaching theory of masks.	.086	.154	-.071	.855	-.031
I teach topics in Year 12 with masks.	.268	.153	-.010	.661	.630
I teach Greek Theatre with masks.	.545	-.162	-.057	.640	.370
I feel using masks in be classroom a challenge.	-.238	.095	.350	-.577	-.197
Mask work is useful in teaching Drama at all times.	-.177	.253	.142	.139	.883
I teach Asian Theatre with masks.	.433	.029	.180	.109	.808

These correlations were also linked to the training of individuals in mask usage (Figure 2). The more training undertaken, the more positive were the attitudes towards mask usage and thus engagement with masks.

Figure 2. Mask Usage Mean Scale Scores



> *I think that if I had more mask training, I'd use them more frequently in my classroom to teach drama/theatre skills and theory*. Teacher Survey Respondent

The respondents indicated that masks are used in the classroom but similar to the literature review, used in manners as exemplified by curriculum documents more than in a intersectional way across multiple dram forms. This is separate to the wider anthropological and theatrical engagement with masks.

Conclusions

There is still limited evidence that schools and Drama courses are using masks other than as a tool for skill development, which may well be limited, or for specific knowledge requirements for specific curriculum. Teacher responses demonstrate a desire to use masks further in their teaching practice and indeed to relate this to wider knowledge and whole school learning but lack the training and experience to do this. The questionnaire responses are a useful starting point to understand the practice of teachers in the drama classroom and their engagement with masks. A limitation to the research was whilst over 300 teaching staff being contacted, only 48 responded. A further potential of study would be to not only have a wider response from teaching staff but have extended interviews or respondents 'unpacking' their mask usage choices. From the data received, it was possible to observe several respondent classes using masks and elucidate student interactions to mask work through observation and group interviews (Roy, 2020; Roy, 2021).

> *As long as there is support for teachers and they are taught about mask and have time to practice and learn the techniques and have fun mask work should be included in the curriculum.* Teacher Survey Respondent

> *Mask work is great for allowing all students to explore body language and gesture and basic human communication of which language is only a small part.* Teacher Survey Respondent

> *Theatre is also about stagecraft and masks are the core of many styles.* Teacher Survey Respondent

From the questionnaire data presented, it is clear that drama teachers are engaged with practical learning, and it is in this aspect that nearly four out of five secondary respondents use masks in the classroom (78%). However, there seems to be a disconnection between teacher training in drama and specialist mask training for drama teachers, despite a majority of teachers stating that they felt mask work was engaging and important for curriculum development.

There was also a belief expressed that mask is a specialised area, not necessarily a generalist tool for teaching drama. In their open-ended responses, most of the respondents contextualised their use of masks in relation to specific units of mask work rather than within generalist drama training.

Masks have been widely researched in anthropology and psychology. There is a multitude of historical data relating to the usage of masks in a theatrical context, through such practitioners as Meyerhold, Brecht, Lecoq and Mnouchkine (Roy, 2016b); all of whom there are opportunities to focus on in the Senior curriculum. This is in addition to studying Greek theatre or Commedia dell'Arte in Drama, English or History curricula. Furthermore, is the role that masks have played in the Asia Pacific region, and continue to do so today. Recognising these cultural perspectives can create a greater depth to the learning opportunities available. There is though, a disconnect between the knowledges of mask, their potential for academic and well-being outcomes, and teacher reported usage. Through further training made available system wide and building upon the recognized success of mask application in classrooms, learning experiences using masks could support the academic, social and inclusive outcomes for all students engaged in Drama learning.

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Diffusion of High Impact Educational Practices at a Saudi University

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Higher education is challenged by workforce needs to transform its outcomes from "knowledge-based" to "competency-based" outcomes. High-impact educational practices, commonly referred to as HIPs, provide, among other benefits, efficacious development of workforce-ready specific competencies. Strategic implementation of HIPs has yet to be diffused at Saudi universities. The Northern Border University (NBU) has identified a set of core competencies graduate workforce-ready graduates. To effectively realize the intended outcomes of its core competencies, NBU selected a set of HIPs to increase student success. This paper discusses NBU's processes and implementation strategies in selecting core competencies and HIPs with ultimate aim of translating both to the local higher education culture and norms in order to effectively achieve desired outcomes.

Keywords: HIPs implementation, core competency, competency-based education

Introduction

Among its various goals, higher education aims to address the ever-changing workforce needs by training well-rounded and competent students. University graduates' skills are expected to be continually updated as technological advances necessitate integration into the work environment. Universities need to adapt to these changes through program reform to better prepare their students for the workforce expectations. Technological advances in artificial intelligence, for example, are increasing efficiency and standardization by performing menial repetitive tasks. This shift creates new opportunities for employees to dedicate more time to complex tasks requiring specific skills in information technology, critical thinking, and creativity. With this shift, universities need to evaluate from the traditional "knowledge-based" education to a "competency-based". One way to successfully pursue this transition is to develop clearly articulated competencies and successfully realize their outcomes by adopting high-impact educational practices (HIPs).

High-impact practices increase the likelihood that students invest more time and effort on purposeful tasks and result in students interacting more frequently with faculty and peers about substantive learning; experiencing and having a greater appreciation for diversity; and discovering relevance of their knowledge through real-world applications (Kuh, 2008; Brownell, 2009a; National Survey of

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Student Engagement, 2007; Hansen, Chism, & Trujillo, 2012). These activities likely contribute to the increase in student retention and graduation rates and enhanced positive attitudes towards college, faculty, learning, and students observed at universities implementing HIPs. Such practices have been especially useful for first-year experience program and of particular benefit to low performing students. Nationwide figures for freshman curricular initiatives in the USA indicate that freshman seminars are provided in between 58% and 80% of two-year institutions and 73% to 90% of four-year institutions (Koch, Griffin, & Barefoot, 2014; Young, Hopp, & National Resource Center for the First-Year Experience and Students 2014).

Focused HIPs have been used to achieve desired learning outcomes, improve critical thinking and communication skills, and increase engagement in deep learning, which speaks to their effectiveness and importance (Kuh, 2008; COMEVO, 2018). After adopting a set of university-wide core competencies, Norther Border University (NBU) became the first Saudi institution of higher education to follow the lead of numerous world-class American and British universities that adopted HIPs.

Higher Education in Saudi Arabia

In the past two decades, higher education in Saudi Arabia has massively expanded from eight to its current 40+ universities. As part of Vision 2030 strategic plan, Saudi higher education is prioritizing program reform to respond to workforce needs. As the country's need for well-trained workforce expands with the addition of new industrial sectors to diversify Saudi economy and technology, so does expectations of its higher education system (Kingdom of Saudi Arabia, 2016; Oxford Business Group, 2015; Alharbi, 2016).

Graduating a world-class workforce creates opportunity for competing in the global marketplace. Numerous world-class universities located within thriving economies implemented a variety of specific core competencies and HIPs allowed cultivating national talent, attracting resources, and establishing favorable governance (Salmi, 2009). Adopting a strategic vision that focuses on developing specific core competencies and implementing focused high-impact educational practices can help Saudi universities overcome major challenges in building successful programs tailored to the needs of the present and future labor market and achieving its national strategic goals (Alharbi, 2016; Alabdulmenem, 2016).

HIPs at Saudi Universities

Saudi Arabian universities, like their peers worldwide, are pressured to meet students', employers' and other external stakeholders' expectations. Successfully teaching a designated curriculum, devoid of real-world practices and experiences, is an outdated paradigm for achieving competence and workplace readiness. Students are eager to be equipped with both knowledge and experiences that make

them attractive candidates in the current competitive workforce environment. Simultaneously, employers are seeking competent and agile employees who can adapt and quickly become productive employees.

Universities are responding by transforming their programs and implementing educational strategies such as HIPs, which are proving to be successful as seen in various world-class institutions (Kuh, 2008). Saudi Arabia is undergoing a major reform with the adoption of its national strategic plan known as the Vision-2030. As part of this strategy, one of the national aims is to operate top-tier programs. To achieve this national goal of harboring top-tier programs that graduate workforce ready students, NBU has become the first Saudi university to implement HIPs to our knowledge. It is transforming its programs to ensure graduates' workforce readiness by implementing select HIPs such as: common intellectual experiences, learning communities, first year seminars, and undergraduate research.

Northern Border University, Its Challenges and Solutions

Northern Border University is a regional comprehensive public university located in north of Saudi Arabia. It consists of 16 colleges, four campuses and enrolls approximately 15 thousand undergraduate students, the majority are females. After a major internal and external survey, NBU determined that its students' competencies and the regional workforce needs to be more aligned with the workforce directions. It also learned of students increment participation in extracurricular activities designed for attaining specific core competencies. The institution's programs have been structured as traditional lecture-style teaching, which focused on professors and their assistance to students to improve performance, but lacked opportunities to aid students in refining their skills.

NBU's new strategic plan adopts a new vision for the university. It transforms the themes of teaching and learning. To fulfill the new vision, NBU has identified core competencies each student should acquire prior to graduation and has selected specific HIPs to implement to develop those core competencies. The core competencies will align with the regional workforce needs based on employer surveys and NBU values. HIPs will incorporate skill-development activities (e.g., presentations, research, etc.) into the curriculum.

Institutional Core Competencies

The NBU core competencies follow the Saudi Arabian Qualification Framework (SAQF). The SAQF uses 10 level descriptors to aid programs in the design and development of requirements and provide a scheme for comparing and matching learning outcomes and performance criteria. The levels are differentiated by the depth of knowledge, skills and competence acquired at different tiers of the education system: general education (levels 1-3), technical and vocational training (levels 3-7), and higher education (levels 5-10), which all contribute towards life-long learning. To better match its graduates workforce skills and competencies

with its local employers', NBU surveyed leaders of local employment sectors to identify the regional labor market needs and understand the key qualities employers look for in prospective employees. The survey included assessment of strengths and weaknesses of the current workforce and identified employee competencies of highest importance. The assessment resulted in 24 competencies, which were grouped into five dimensions: communication, organization, cognitive skills, creativity, and social responsibility (Table 1).

Table 2. Dimensions and Competencies Surveyed for Importance in the Workforce in the Northern Border Region of Saudi Arabia

Dimensions	**Competencies**
Communication	Leadership and people management
	Communication skills
	Influencing
	Networking and Influencing ability
Organizing	Time management
	Organizational ability
	Problem-solving capacity
	Planning skills
	Business management skills
Cognitive	Industry knowledge
	Language skills
	Finance knowledge
	Technology skills
	Digital literacy
Creativity	Creative
	Inspiring
	Challenging
	Innovation orientation
	Critical Thinking
	Entrepreneurial
Social Responsibility	Responsible
	Volunteering
	Civic and National Identity
	Collaborative

NBU found that employers considered all dimensions important with the cognitive and organizing dimensions as most valuable and creativity least vital. Employers expressed that technology proficiencies and problem-solving were the competencies most highly required in the current workforce, whereas time management, language skills, and volunteering were the least demonstrated. Based on SAQF, its survey result, and university goals, NBU selected seven core competencies as its top priority: effective oral and written communication in Arabic and English, digital and information literacy, critical thinking, citizenship and national identity, self-motivated professionalism, networking and group interaction, and entrepreneurship.

Selection of High-Impact Educational Practices

High-impact activities ask students to engage in genuine learning experiences, allowing them to apply the knowledge garnered from classroom lessons to practical problems and scenarios in their communities and campuses. By interacting with their peers and faculties, and learning in "real life" situations, it becomes more likely that a greater level of diversity will be encountered, promoting fresh ways of thinking about unfamiliar circumstances. High-impact activities are a good way of allowing students to reach crucial learning goals by receiving feedback regarding how well they performed, which allows them to make adjustments to their behaviors, acquire new knowledge, build their characters, and develop new skillsets.

NBU selected a set of HIPs for implementation based on their alignment with its strategic themes, likely effectiveness towards students' attainment of the core competencies, feasibility and resource availability, anticipated faculty interest and suitability to local practices and culture. NBU assessed faculty and student participation in diverse university activities to understand level of engagement and current norms. The HIPs described by Kuh were categorized based on their expected influence on each core competency and on results observed at universities in the US and UK. NBU also evaluated faculty qualifications and expertise, curriculum, university capabilities, infrastructure, and conducted community and student surveys. Additionally, unique characteristics of NBU and the local culture influenced the selection of HIPs. Certain HIPs strategies are unlikely to be effective or accessible for all students due to the cultural perspective. Four HIPs were chosen for implementation at NBU: common intellectual experiences, learning communities, first year seminars, and undergraduate research.

Common Intellectual Experience: The concept of the "core" curriculum has undergone an evolution into a number of different interpretations in modern education, e.g., a group of compulsory shared courses or vertically-structured general education programs that incorporate high-level integration studies and/or compulsory involvement with learning communities. Such programs frequently offer a combination of broad-brush thematic elements and various curricular/co-curricular opportunities (Kuh, 2008).

Learning Community: The central aim of the learning community is to promote integrated learning outwith specific course learning and to ask students to address crucial questions that have import beyond the academic world. Students may enroll in groups for two or more courses with common themes, working closely together and with education professionals. These learning communities may undertake explorations of shared topics or materials from the perspective of various disciplines. Some may deliver links between professional subjects and the liberal arts, while others incorporate service-learning (Kuh, 2008).

Learning communities form links between a minimum of two cohorts via a common theme; often, sufficient courses can be linked to fill out student schedules for a semester. Learning communities help students to transition into a college education and assist students from underrepresented groups in

identifying as learners, promoting a feeling of inclusion. Such communities can also be influential in a number of desirable educational outcomes, including developing ethics and values, civic engagement, integrated thinking, and general intellectual development (Brownell & Swaner, 2009a).

First Year Seminars: First-year seminars implement regular meetings between students and faculty. The most valuable freshman experiences are those that have a robust focus on collaboration and learning, information literacy, frequent writing, and critical inquiry, along with other skills that make students more competent both intellectually and practically. Freshman seminars encourage students to discuss the most important questions of their time, supported by the research of faculty members (Kuh, 2008). Students engaging in freshman seminars have a greater likelihood of regarding the campus as somewhere that offers them support; additionally, they will know more about the resources available on campus and will develop superior time management to those who do not engage with such seminars (Brownell & Swaner, 2009b).

Undergraduate Research: Numerous universities and colleges now offer students from every discipline the opportunity to participate in research. This is most common within scientific subjects. With robust NBU encouragement, scientists are reformulating their curricula to form connections between central concepts and student investigations and to encourage students to participate in systematic investigations/research. The aim is that students should become involved in addressing unresolved questions, undertaking empirical observations, working with the latest technology, and experiencing the intellectual stimulation that results from addressing significant issues (Kuh, 2008). In comparison to those who did not participate in research, undergraduates who do have a higher likelihood of continuing their education by entering graduate school, generally feel that their education as a whole was more fulfilling, and are more skilled in terms of research and problem-solving (Brownell & Swaner, 2009a).

Demonstrated by other universities, these activities increase student retention, modestly improve student performance, and expose students to diverse experiences and forms of learning, which will lead to successful attainment of core competencies to fuel the future workforce (Kuh, 2008; Brownell & Swaner, 2009b).

Implementation and Sustainability

NBU will pilot HIPs with the incoming freshman class of two colleges: Engineering – 150 male students – and Nursing – 60 female students. Gender segregation is enforced in universities throughout Saudi Arabia, including NBU, and it is imperative to launch and evaluate these programs for both males and females as they will all contribute to the future workforce. Within the first and second semester, courses that will integrate HIPs include English, Thinking Skills, Communications Skills, and Computer Skills.

Implementing HIPs requires an abundance of resources including a considerable investment of money and time from committee members, faculty, and staff. The willingness of faculty members to participate in new programs and change the current teaching standard – from an instruction paradigm to a learning paradigm – are equally important as the program logistics (White, 2018; Dedman, 2018; Finley & Kuh, 2016). Here, we describe implementation tactics found throughout the literature and from higher education institutions.

Implementing HIPs involves establishing a program framework, developing assessment tools, engaging and training faculty and staff across disciplines, and increasing awareness among students (White, 2018; Brownell & Swaner, 2009b). These activities require thoughtful strategic planning that accounts for the unique culture and specific goals of the university and region, where critical activities for implementing HIPs include:

1. Setting measurable goals for each HIP and for the collection of HIPs (Moon et al. 2013; AACU, 2015; Buyarski & Landis, 2014).
2. Developing a framework as a resource guide for faculty and staff, revising the guide periodically to ensure smooth transitions between program iterations, and distributing the guide to faculty and staff (Brownell & Swaner, 2009b).
3. Forming external and internal partnerships for training, learning, and campus-wide impact; identifying, engaging, and training faculty and staff across disciplines to ensure smooth adoption and revisions of programs (White, 2018; Kinzie, 2011).
4. Developing assessment tools and an assessment schedule that can be used to evaluate the progress towards each goal, at the program-level and university-level, and to revise the programs as needed (Finley & McNair, 2013; Kuh, 2012).

Goals for HIPs individually and collectively should be established to optimize program design (Fink & Fink, 2016); different designs of the same HIP can be more effective for different outcomes. For example, first year seminars that are one contact hour per week are sufficient for introducing students to policies and practices, but are not as effective as two-contact hour seminars for improving time management or increasing student-faculty interactions (Brownell & Swaner, 2009a). NBU's goal is for all students to acquire the selected core competencies. Assessment of the HIPs will be centered on the essential core competencies; staff, faculty, and student feedback will be employed. Besides, development of the HIPs will involve NBU considering the eight conditions responsible for student engagement at high levels and HIP benefits being achieved (Kuh, O'Donnell, & Reed, 2013), these being:

- Suitably high level of performance expectation.
- Students investing significant effort/time for extended periods.
- Students interacting with peers and faculty regarding substantive issues.
- Students experiencing high levels of diversity.

- Students receiving feedback that is constructive, frequent, and timely.
- Students receiving regular structured opportunities for reflecting on and integrating their learning.
- Students having the opportunity of discovering how relevant their learning is by applying it in real-world scenarios.
- Students are publicly demonstrating their competencies.

Not every HIP needs to fulfill all these conditions, but those designing the programs should recognize each condition when creating strategic plans and implementing program assessments.

HIPs are most successful through cycles of launch, measure, and learn, similar to the lean manufacturing model. This requires frequent assessment of the program, which enables productive iterations to improve the programs and experiences for students and faculty. Additionally, establishing a framework as a resource guide increases program sustainability by increasing information accessibility for faculty and staff to efficiently accept and implement changes. This is especially important if those faculty and staff are responsible for key tasks within the HIPs, such as providing feedback and assessments as an undergraduate research mentor, or if they are new to the institution or program (Kuh, O'Donnell, & Reed, 2013; Sandeen, 2012).

Faculty and staff engagement and training is essential to the success of the programs (McNair & Albertine, 2012; Kezar & Holcombe, 2017). Faculty and staff need to know what is expected of them, how to integrate new teaching practices or topics into their classroom, and what assessment tools and resources are available to them (Kezar & Holcombe, 2017). NBU has formed partnerships with universities that have successfully implemented and sustained HIPs to learn from their experience and leverage their expertise to train the NBU faculty. External and internal key partners and stakeholders of the university should be identified and their specific roles and contributions toward the design and implementation of a specific HIP should be understood.

Student, faculty, and employer decision-making are influenced by assessments on knowledge, skills, and abilities. Assessment practices are becoming increasingly complex evolving from traditional exams to capstone projects and feedback from faculty and students. Program assessment can be labor intensive and complex, but is crucial for understanding if programs are modeling best practices and meeting institutional and national goals, as well as meeting the needs of the students (Einbinder, 2018). Traditional tests are useful, but cannot assess certain outcomes such as leadership skills or willingness to learn, but instructors continue to use exams for reasons such as lack of time, funds, and knowledge of modern and appropriate methods (Wiggins, 2014; Haghnegahdar, 2013). When assessing student learning and skills, alternative assessment methods (e.g. research reports and writing assignments) should be weighted appropriately for comprehensive student evaluations (Miller, Imrie, & Cox, 2014). Additionally, faculty teaching evaluations should not only rely on how well they can instruct, but also on what methods they are using and how effective their teaching methods are. Utilizing assessment tools and both quantitative and qualitative metrics for each HIP is

useful for collecting key information on the programs and making decisions on which elements of the HIPs should be kept, revised, or eliminated. For meaningful program evaluation and revision, baseline status of programs in relation to the university goals (e.g., critical thinking ability) should be documented prior to HIP launch. Adjustments to programs are most effective when there is data collected on the progress towards the original goal, student experience, and faculty/staff experience (White, 2018; Barr & Tagg, 1995).

The most common outcome studied for first-year seminars, learning communities, and undergraduate research is student perseverance, followed by academic performance. Behavioral, attitudinal, and learning outcomes are also commonly assessed, such as faculty and peer interactions, critical thinking skills, writing skills, and engagement level (Brownell & Swaner, 2009a; Tampke & Durodoye, 2013; Andrade, 2007). Upcraft, Gardner, and Barefoot (2004) state that colleges should have a broader palette when it comes to defining student success, which should include the development of career goals, exploration of identity, clarification of beliefs and values, the development of an awareness of multiculturalism, the development of feelings of civic responsibilities, and becoming more intellectually and academically competent (Upcraft, Gardner, & Barefoot, 2004). NBU has opted to undertake the evaluation of particular student outcomes on the basis of the targets, mission, and vision detailed in its HIP Strategic Planning.

To gain a full sense of the impact of the programs, data should be collected at different timepoints, throughout a semester, between two semesters, over the course of a year, and more longitudinally – over the course of the undergraduate experience and perhaps extend beyond to graduate studies or into alumni careers. It is important to note that frequently assessing programs can become burdensome to faculty members and can result in frustration. Bresciani suggests starting with a few learning outcomes to measure rather than attempting to assess everything every year. Once data is collected and assessed, strengths, weaknesses, gaps, and needs can be identified and used to iterate the programs and make them more sustainable and beneficial (Bresciani Zelna, & Anderson, 2004; Bowman, 2010; Limbach & Waugh, 2014).

Implementation Plan

To successfully implement its HIPs Plan, NBU identified key resources; developed metrics and key performance indicators; established a system for evaluating and revising programs; and developed a timeline for key activities. We plan to launch programs and execute key tasks outlined in the HIPs Implementation Plan, utilize assessment tools to track progress and key outcomes, and revise the programs as needed. NBU's HIPs Implementation Plan outlines key objectives over a five-year period to successfully integrate HIPs into the curriculum, extracurricular student life and achieve the desired core competencies. Successful implementation will create a high-impact education environment, establish intentional and integrative learning approaches that encourage competence

transference to students, develop students' entrepreneurship and leadership skills, and instill effective soft skills that enable undergraduates to create meaningful connections between gained experiences.

Important supplemental activities involving project management, information dissemination, program sustainability, and quality control will be performed throughout the strategic plan. For knowledge-transfer and program success, partnerships have been formed with universities where HIPs are established and successful. These partnerships enable NBU faculty and staff training with distinguished HIPs experts, which will be leveraged upon program launch.

Institutional Investment

Increased outputs generally require an increase of inputs. Planning and implementing high-impact activities demand considerable time and effort from students, faculty, and staff to achieve learning objectives, and the level of investment depends on the intensity of the programs and assessment tools. Some high impact practices are very cost efficient such as common reading experiences – mainly requiring some administrative effort and leadership by faculty – or entry/ exit seminars where first-year students interface with graduating students, spurring mentorship, whereas other HIPs are costly to develop, such as undergraduate research, especially if the necessary infrastructure and expertise need to be acquired (White, 2018; Limbach & Waugh, 2014). Investing in HIPs, incorporating meaningful assessments, and stimulating faculty willingness to participate is essential for successful program development and sustainability. Below, we describe some of the costs associated with HIPs in general and specifically to the HIPs that are being implemented at NBU.

University Investment

A substantial amount of financial resources and time goes into developing and launching HIPs. NBU executives, faculty and staff have dedicated hundreds of hours to assessing the current state of the university, planning critical activities, and finalizing a strategic plan, and are anticipating dedicating considerable time over the next five years to implement, assess, and revise the HIPs. Some areas of investment may include acquiring physical and technology infrastructure, acquiring research equipment, synthesizing departments to oversee new programs, expanding the number of high-quality faculty and administrative staff, training and incentivizing faculty and administrative staff, and financially supporting students and faculty through scholarships and grants (White, 2018).

Seeking engagement with industry and the community, and forging partnerships with them, is now commonplace within higher education institutions, allowing them to produce students better suited to the workforce, but this can create additional pressure on universities and additional demands in that more specialized staff and a more robust administration are required. It has been shown (Baltaru & Soysal, 2018) that spending 1% more on goods and services means that

there will be a 20% rise in the proportion of staff involved in administration; in UK higher education administrative staff levels are expanding at a higher rate than those of teaching staff (Baltaru, 2018; Temple, Callender, Grove, & Kersh, 2014; Temple, Callender, Grove, & Kersh 2016). This illustrates that the adoption of novel practices and systemic transformation can be highly disruptive and involve very significant change, requiring the intervention of highly effective administrators. One of NBU's central objectives is to implement both quality and capacity increases for staff, both administrative and academic; it is intended to accomplish this by acquiring new personnel, implementing robust training, and undertaking assessments employing the four key performance indicators detailed in the strategic plan.

Faculty Investment

Faculty members are the driving force of educational programs, as they are the direct implementors and are involved in regular assessments of their students. The quality of NBU's academic programs, graduates, and knowledge production is predicated on the caliber and commitment of NBU's faculty. Instructors and faculty members will need to dedicate substantial amounts of time to train and be trained on new programs, teaching methods, and systems. Courses and assessment tools will need to be restructured, resulting in faculty time being dedicated to assessment activities, providing feedback to students and program administrators, and revising courses. As new programs are implemented and students increase their time dedicated to diverse experiences (e.g., undergraduate research), faculty and staff will need to be more available to support, guide, and mentor students. Time allotted to program development and sustainment can take away from faculty members' research initiatives and other professional appointments, stressing the importance of developing a system that will avoid frustrating faculty and encourage faculty to participate. This can be particularly difficult for universities if tenure and other incentives are not dependent on HIPs activities (White, 2018).

Administrative and Staff Investment

Universities' purpose and vision globally has widened to incorporate external relationships, the transference of technology and knowledge, regional development, enterprise and research, student services, marketing, strategic planning, and quality control (James, Marginson, & Considine, 2002; Krücken, Blümel, & Kloke, 2013; Baltaru & Soysal, 2018). This demands complex and robust administrative infrastructures that are able to address the requirements of students, faculty, and external actors and that have the ability to develop new skill sets and adapt themselves rapidly to institutional changes, e.g., NBU's systemic HIP implementation. Extant and newly recruited staff will need to be trained and give their feedback regarding training and existing frameworks. Faculty/student schedules will have to be coordinated, monitored, and restructured for the accommodation of HIPs. Administrators will have to be able to respond to student/faculty questioning about protocols and policies, in addition to dealing

with compliance issues and setting a budget for activities and equipment needed for HIPs.

Student Investment

Specific HIPs may take time away from core courses or from activities and responsibilities outside of education. Travel, additional course materials, increased time dedicated to school activities might reduce available time to work or earning potential. Additionally, the cost to participate and enroll may be outside the students' ability depending on the structure of the activity, which could create unequal program accessibility and limit the involvement of low-performing students (White, 2018). However, the cost of participating might reach the students social life and family duties especially in the Saudi culture.

Research-Related

Upfront costs vary depending on the equipment and laboratory space already acquired by the university. Once these are established, the cost of actual projects is relatively low because materials, space, and equipment used in course laboratories can be used in research projects. Universities may choose to support undergraduate researchers by providing a stipend, but involvement could also be as a volunteer. Additional costs to consider for undergraduate research programs include software; research subject compensation (for human research); service fees; instructional materials; travel; and publications. The greatest costs associated with undergraduate research are faculty members' time and indirect costs, such as facilities and administrative costs. Faculty members leading undergraduate researcher is a major commitment of time and energy due to undergraduate students needing to be fully trained in basic techniques and laboratory safety, as well as mentoring students specific to their project, which will take time away from other professional activities faculty members need to perform that could contribute to tenure and other professional accolades (White, 2018).

First Year Seminars-Related

Investment for first year seminars depends on the structure and frequency. Faculty time is the greatest investment, as they will need to determine the structure and topics, and ultimately instruct the courses. Additional areas of investment can include cost of course materials, field trips, honorarium/guest lecturers, reference materials for instructors, reference materials for students, and light refreshments. UC Davis provides mini grants of $500 to cover various expenses (Schmidt & Graziano, 2016; Finley & Kuh, 2016).

Learning Communities

There are many different types of learning communities, and their costs will be variable depending upon how programs are structured and their anticipated

timeframe. Oakland University defines the learning community as being a "cross-disciplinary, faculty-driven group of 6-12 members engaging in a year-long program to promote the scholarship of teaching and learning." The Centre for Excellence in Teaching and Learning at Oakland University offers $1,500 towards the costs of travel, materials, and books that can support the implementation of the learning community (Finley & Kuh 2016).

Common Intellectual Experiences

Similar to the other HIPs, common intellectual experiences can vary in structure, which will dictate the level of investment. Ursinus College implemented CIEs as a two-semester course for all first-year students to engage students in conversation about central questions, cultivate self-knowledge needed to live an independent and responsible life, and to establish an enjoyable intellectual community for students and faculty. Classes were limited to 16 students and involved faculty from all disciplines. Similarly, Union College encouraged intellectual experiences through student-faculty dinners, speaker receptions, and cultural and academic trips, and provided grants up to $1,000 to cover these types of activities (White, 2018).

Cost can be reduced by using open educational resources and if resources are shared across programs and disciplines. Partnering with the community or industry could potentially relieve some financial stress if the partners are willing to cover a portion of the program costs (e.g., student travel or materials). Identifying program champions across campus and maintaining motivation to improve programs is crucial to the success of HIPs. Universities need to balance the needs of faculty, staff and mentors to ensure that they have sufficient time to perform their primary duties, teach core courses and accomplish their own research goals.

Conclusions

High-impact education practices are utilized by top-tier education programs and can result in increased retention and improved student outcomes. Universities play a critical role in fueling the regional marketplace and have the responsibility of developing individuals that are well-equipped to quickly join and contribute to the economy and society.

Saudi Arabia is in a period of reform to build a prosperous, knowledge-based economy. This national goal spurs innovation across all sectors including higher education to achieve the key objectives outlined in the Vision 2030 plan. There are many challenges faced by universities in Saudi Arabia, one being developing effective programs that address the needs of employers and the evolving marketplace. HIPs improve deep learning, impacting the country workforce by adding the value of gaining the essential competencies before joining the labor market. The workforce obtaining core competencies will influence the economy by providing well-trained personnel to quickly training students to contribute to the economy's development.

Northern Border University plans to implement four synergistic high-impact practices that are commonly utilized by world-class universities and provides a framework and key considerations as a resource for other universities in Saudi Arabia.

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An Analysis of the Ideal Qualities that Unıversıty Students Look for in their Peer

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The aim of this research is to reveal the cognitive constructs of university students regarding their ideal peer qualities. As the research has both qualitative and quantitative dimensions, the study was carried out in accordance with the exploratory sequential design, which is a type of mixed method. The research was conducted with 24 university students studying at different faculties of Atatürk University in the fall semester of the 2020-2021 academic year. The study group was formed in accordance with the maximum diversity principle with the criterion sampling method, which is one of the purposeful sampling methods. The repertory grid technique was used in this study. The repertoire grid form applied to the participants was analyzed and 240 cognitive constructs related to ideal peer qualities were produced by the participants. Based on 240 cognitive constructs, the main construct groups are listed as humanistic values, ethical attitudes and behaviors, discipline/rationalism, communication skills, social skills, extroversion, and leadership according to qualified number.

Keywords: friendships, university students, peers

Introduction

The individual needs social networking in order to survive from the first years of life, and individuals can be healthy thanks to the relationships she/he has established with his family, her/his peers and the society (Atik et al., 2014). The social aspect of human development emphasizes the existence of human beings with other people as a social being. Therefore, the most basic feature that distinguishes humans from other living beings is their social existence (Topaloğlu, 2013). Friendship is important in this network of relationships that the individual has established.

Peer relationships emerge for the friendship group or the same developmental stage and maturity level. Peer relationships are continuous interactions among the people who share a similar past, value, life, lifestyle and social context (Gülay, 2009).

Maintaining or establishing relationships with peers is one of the basic developmental tasks. It has positive consequences such as social competence in

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peer relationships and negative consequences such as substance use and aggression (Bayar & Uçanok, 2019).

Literature Review

Friendship with peers is a comforting element for the individual in terms of establishing social relationships. Friendship involves a developmental process with age. If a person does not have a friend, this can create a sense of loneliness and lack. The individual experiences emotional exchange by helping and sharing with friends. Hence, the foundation of social relations emerges. Accordingly, the peer becomes a mirror that reflects the individual's own personality. Thus, the individual introduces her/his personality. Accordingly, she/he learns to get along with people and cooperate. It improves social skills (Bayhan & Işıtan, 2010).

During adolescence, the importance of peers increases for the individual rather than the family, and it symbolizes vital value. The ability to limit a social relationship, positive behaviors, and negative effects from peers has a great influence on the psychological development of the adolescent (Köse, 2015).

Many researchers have been conducted about friendship and peer relationships, and many perspectives have been developed on this issue. According to scientists, friendship is a part of development for the individual; it prepares the individual for social life and develops the individual identity. If the individual wants to establish a friendship relationship, she/he must first form his or her identity. As the identity of the individual develops, she/he will be able to establish better relationships (Bayhan & Işıtan, 2010).

Peer relationship starts around at the age of three. Peer relationship provides both socialization and development. In the youth period, peer relationship is very important, because, with the youth period, a friend-oriented life begins rather than family. The teenager develops his/her identity with his/her peers. Thanks to their friends, individuals learn about other people. Friendship is a useful guide for teens. Their ideas, hobbies and tastes take shape with friends. Thanks to friendship, they learn to cope with their own emotions and fears, and understand the feelings of others. They share their experiences, thoughts, desires and fears with each other. After this sharing, the young person actually becomes aware of himself. Although the family provides all kinds of opportunities for young people, it cannot meet all the needs for self-knowledge and development. Therefore, young people need friends (Semerci, 2012).

The peer relationship is important for an individual's school life. Developing learning and studying approaches are considered to be important for structuring knowledge today. Active learning, which has been proven to have a positive effect on various learning products, has a positive effect on learning and study approaches. Along with active learning, self and peer evaluations have an important effect on learning and study approaches (Gömleksiz & Koç, 2011).

University life, which can be seen as the first independence attempt after secondary education institutions, is a period of changes that require adaptation for students. Some of the students who cannot keep up with this rapid change in their

lives may give up at the beginning of the road and leave the university, and the university adventure may end before it begins. It has been understood that some stress factors and difficulties related to university life (longing for home/ homeland/friends, psychological disturbances, carelessness, failure, interpersonal conflicts, sense of isolation) are important in dropping out of college (Buote et al., 2007; Paul & Brier, 2001; Fisher & Hood, 1987; Brooks & DuBois, 1995; Levitz & Noel, 1989). Friendships have an important place in overcoming these difficulties. In the early years of the university, which coincides with the last period of adolescence, students want to establish new relationships different from their childhood years. In this period when family relationships maintain their importance, peer relationships and romantic relationships gain more importance (Bayhan & Işıtan, 2010). Friendships are important not only at university but also throughout life (Hartup & Stevens, 1997).

Students' views and evaluations about other students are very important in terms of both active and constructivist learning. Peers' observation and discourse on each other's learning and learning outcomes and individuals share responsibility and work in collaboration. Studies have shown that peer assessment enables students to make advanced inquiries, making more in-depth evaluations about learning, to be more active in their relationships with their friends, and thus increasing their socialization capacity (Cheng & Warren, 1997; Sluijsmans, Brand-Gruwel, & Merrienber, 2002; Kollar & Fischer, 2010; Vickerman, 2009).

Peer relationships can also be considered as a process of gaining skills in terms of the behaviors they have to display in the learning process (Adachi, Tai, & Dawson, 2018). Students who have skills such as critical thinking, being able to approach events objectively, thinking in the context of certain criteria, collaborating and giving effective feedback also provide opportunities to learn and develop these skills (Temizkan, 2009; Topping, 2009).

Students' views and opinions about each other are very valuable both for their own learning and for their peers' learning. While students question the learning of others, they also supervise their own learning processes. The student, who controls the learning processes of his friends, has the opportunity to develop both learning and lifelong learning skills by recognizing the shortcomings in his/her own learning processes and rearranging them (Flavell, 1987). This is important in terms of revealing the relationship between peer evaluation and self-evaluation (Güzel, 2018; Yurdabakan, 2005).

University life is one of the important terms for the individual in the context of peer relationships. It can provide the individual with ease of life both in social and educational life, and may also lead to unexpected frustration. When the literature is reviewed, it is seen that many studies have been conducted on peer relationships in the learning process. These studies provide opportunities about (Sluijmans, 2002; Weaver & Esposto, 2012), academic achievement (Freeman, 1995) critical thinking (Searby & Ewers 1997; Stainer 1997), social and cognitive skills (Smith, Cooper, & Lancaste, 2002; Tsai, Lin, & Yuan, 2002), the evaluation process efficient (Arter, 1996; Fallows & Chandramohan, 2001) teacher and student opinions about the process (Bozkurt & Demir, 2013; Çoban & Polatcan, 2018; Gömleksiz & Koç, 2011; Hanharan & Isaacs, 2001).

When studies are examined in Turkey, there is limited research about this topic. The ideal qualities of peers for university students in Turkey are unknown. Lack of awareness regarding these expectations may negatively affect students' ability to make friends and indirectly their ability to adapt to their new lives. The insufficient information about the ideal peer qualities of university students limits the opportunity to compare different countries in international studies. This study was conducted to reveal the friend qualities that are important for university students, thus creating a suitable basis for comparing these qualifications with other universities in a national and international context, partially eliminating the expressed limitation.

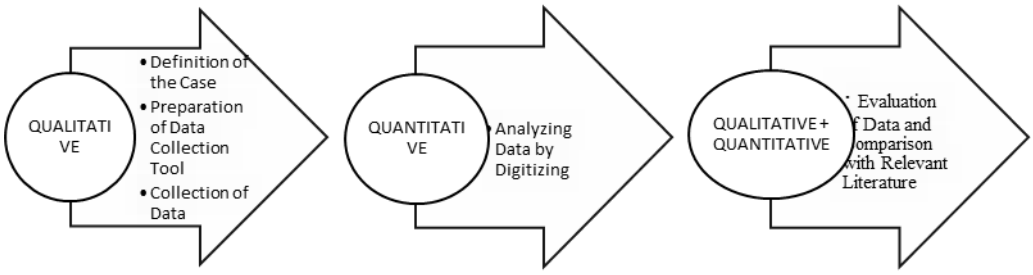
This study is important in terms of contributing to the establishment of friendships of new students, and thus facilitating their adaptation to university life. In addition, it can enable university students to learn the qualities that their friends want to see in themselves. Therefore, they could establish more easily and sustainable friendship relationships. Finally, this study is important in terms of preparing a suitable ground for researchers to compare the ideal friend qualities of different university students in Turkey and abroad.

In this study, the ideal peer qualities that students construct in their minds with the repertory grid technique, apart from the pre-determined standards, were analyzed. For this purpose, "What are the cognitive constructs of university students regarding their ideal peer qualities?" The answer to the question was sought.

Methodology

Since the research has both qualitative and quantitative dimensions, the study was carried out in accordance with the exploratory sequential design, which is a type of mixed method. Mixed method research is the use of qualitative and quantitative methods together in data collection and analysis processes in order to understand the research problem in a study (Creswell & Plano Clark, 2014; Hesse-Biber, 2010). Mixed method research has varieties such as descriptive sequential design, exploratory sequential pattern, sequential transformational pattern, simultaneous triangulation pattern, concurrent nested pattern, and simultaneous transformational pattern (Creswell, 2003). The exploratory design is seen as an important research method in terms of quantitative expression of the similarities and relationships between phenomena created by qualitative methods (McMillan & Schumacher, 2006). Due to the overlap of these features of the exploratory design and the features of this study, the exploratory sequential design was used in the research.

Figure 1. *Process Steps of the Research Process*



As seen in Figure 1, the first three steps of the research represent the qualitative dimension of the research, and the fourth step represents the quantitative dimension. In the last step of the study, all the qualitative and quantitative data obtained were evaluated together and tried to be compared with the relevant literature.

Study Group

The research was conducted with 24 university students studying at different faculties of Atatürk University in the fall semester of the 2020-2021 academic year. The study group was formed in accordance with the maximum diversity principle with the criterion sampling method, which is one of the purposeful sampling methods. As a criterion, the students are fourth grade students. For students' cognitive constructs about ideal peer qualities, they should have experience with 6 ideal and non-ideal peers that they wrote on the triple repertory grid form (Patton, 2014). As a maximum diversity, it has been tried to ensure the participation of university students from many faculties in the fields of social sciences, sciences and health sciences. Information about the participants is presented in Table 1.

Table 1. Characteristics of the Study Group

Departments	**Female**	**Male**	**Total**
Social Science	4	4	8
Sciences	4	4	8
Health Sciences	4	4	8
Total	12	12	24

As can be seen in Table 1, eight participants from each of the main fields within the university were included in the study and all undergraduate departments were represented.

Data Collection Tool

Cognitive structures can be reached in order to understand and interpret people' behaviors related to any subject or event. Repertory grid, an information analysis technique derived from Kelly's (1955) Personal Construct Theory, is one

of the most popular indirect knowledge acquisition techniques used in understanding people's views on any subject, event and object (Yaman, 2008). Kelly (1955) claims that a certain number of structures can be reached, by evaluating the events that occur, as a result of people's experiences with the repertory grid technique. These structures can be good or positive, or they can be bipolar, bad or negative. While events (human, vision, object, event) are called "matter", the concepts constructed about events are called "structure". Structures can be nouns or adjectives or a concept consisting of two or three words. Cognitive structures have been reflected in the repertory grid form; it is used as a tool to understand the conceptual frameworks of people about a particular field, subject or object, understanding the ways of evaluating events and decision-making processes related to the subject.

The repertory grid technique was used as the study attempted to question the cognitive constructs of university students regarding ideal peer qualities. The cognitive structures of university students regarding ideal peer qualities were tried to be revealed by using rating charts created with the repertory grid technique and the relationships of the structures reached were understood. Interview and writing methods were used to obtain the data required to create repertory charts for university students' cognitive structures. The triple repertory grid form presented to each interviewee was filled in individually by the participants. During the meeting, attention was paid to the university students to concretize how their experiences guide them and understand the process better.

Process and Data Analysis

In the research description of the phenomenon, preparation of data collection tool, data collection and analysis stages were followed (Sevim, Akan, & Yıldırım, 2020; Sezer, 2016; Yıldırım & Şimşek, 2013). In this process step, a conceptual framework was formed in order to evaluate the ideal peer qualities that were reached with the repertory grid technique. In this context, the subject of the study was defined by examining the relevant literature and focusing on friendship and peer relationships. Then, the problem situation was clarified by associating the ideal peer qualifications with the social and educational lives of university students.

Preparation of the Data Collection Tool. A triple repertory grid technique was prepared in which university students could reflect their cognitive constructs regarding ideal peer qualities (Bell, 2005; Jankowicz, 2004; Sezer, 2016). Table 2 shows an example of the triple grid form used in the research.

Table 2. Triple Repertory Grid Form

Peers							
	Ideal			Non-Ideal			
Ideal Qualifications	Kutlu	Çiçek	Attila	Doğuş	Zekâi	Melis	Non-ideal qualities
	◊		◊		◊		
	◊				◊	◊	
• Imagine that two of the peers in ideal and non-ideal triple groups exhibit the same quality but the third one exhibits a different quality.							
• You can use nouns, adjectives, or expressions consisting of two or three words when writing about peer-related attributes.							
• The figure, which indicates that the qualities of the two peers are similar, is expressed as the pole of similarity (ideal).							
• The figure, which indicates that the qualities of the two peers are different from the third, is expressed as the reciprocal pole (non-ideal).							

Data Collection. In this study, the opinions of university students on ideal peer qualities were obtained with the repertory grid technique. The following process steps were followed in the data collection process (Palmisano, 2007; Sanders, 1982).

University students who are from different departments were randomly selected from class lists .Interviews were conducted with university students by giving appointments on different days. Another thing about this is to consider students' timetable.

First of all, university students were informed about the triple repertory grid form, and a short sample application was made by the researchers on a different topic. University students were asked to consider three peers that displayed ideal peer qualities and those who did not. Second, they were asked to write these peer names to the gaps in the triple repertoire grid form by using code names. Thirdly, university students were asked to write the ideal qualities exhibited by their peers in the spaces specified in the form, and the cognitive constructs of the university students were tried to be reached. Fourth, university students were asked to reorder these cognitive structures written about the ideal qualities of their peers to the section specified in the form in order of importance. Fifthly, the two-dimensional cognitive constructs indicated by university students were scored by each candidate between 1 and 6 for the ideal and non-ideal peers that had been previously determined. Interviews were held in 20-30 minutes each day with four university students and were completed in 6 days. In Table 3, a section of the repertory grid form sample evaluated by a university student is presented.

Table 3. Repertory Grid form Assessed by a University Student

Peers							
	Ideal			Non-Ideal			
Ideal Qualifications	Kutlu	Çiçek	Attila	Doğuş	Zekâi	Melis	Non-ideal qualities
sincere	6 ◊	5	6 ◊	1	2 ◊	1	insincere
considerate	5 ◊	6	6	2	1 ◊	1 ◊	inconsiderate
merciful	6	6	5 ◊	1	1	2 ◊	merciless

Analyzing Data by Digitizing

Cognitive constructs filled by university students were transferred to the computer and thematic analysis was made. In thematic analysis, data is coded and themes and patterns are sought in the data. Thematic analysis process was carried out in four stages. In the first stage, 240 cognitive constructs specified by university students were coded. In the second stage, these cognitive constructs were examined and the structures related to each other were brought together and the main constructs were determined. While determining the main fictions, the related literature was taken into consideration. In the third stage, the cognitive constructs associated with ideal peer qualities were grouped in a way that none of them were left; It has been attempted to explore how ideal peer qualities are represented in thematic thinking (Gibbs, 2007). In the fourth stage, the scores given by the university studients were collected. The first cognitive construct was multiplied by 10. In addition, the last cognitive construct was multiplied by 1 and the importance scores were obtained.

The findings obtained by analyzing the data were tried to be interpreted in seven stages (Karadağ, 2011; Sevim, Akan, & Yıldırım; Sezer, 2016). The data obtained in the first stage were divided into cognitive construct groups and their frequencies were determined. In the second stage, the examples that emerged as a result of repetitions were noted. In the third stage, cognitive groups with similar characteristics were brought together under different groups. In the fourth stage, the variables are classified appropriately for the purpose. In the fifth stage, the relationships between variables were tried to be determined. In the sixth stage, links were established among variables. The findings obtained in the seventh stage were associated with the theoretical structure of the research and the special findings that emerged were tried to be explained.

Information on the Consistency, Confidentiality, Credibility and Transferability of the Study

In order to ensure consistency, the relationship between the cognitive constructs created by the university students and their relationship with the theoretical structure were examined. Consequently, a meaningful and consistent integrity are presented. After the form used in the study was filled by the participants, the participants were interviewed about the constructs stated in the form. Therefore, the thoughts reflected in the form were confirmed, and clear and incomprehensible fictions were clarified. After the findings obtained from the research were completed, they were shown to three university students randomly selected from the participant group, and feedback was received that the cognitive constructs reached reflect the reality (Miles & Huberman, 1994; Yıldırım & Şimşek, 2013).

Scientific method, sampling technique, data collection tool and data analysis processes are detailed in order to ensure the verification of the study. It was formed in a way to cover all the basic areas of the working group. The conceptual framework for the research has been comprehensively prepared so that the findings can be explained easily (LeCompte & Goetz, 1982).

The cognitive constructs expressed by the participants in order to ensure the credibility of the study without any comment. After the cognitive constructs were associated and classified, the classification was confirmed by taking the opinions of faculty members. One of whom is expert in educational sciences and the other one is in the field of Turkish education (Miles & Huberman, 1994).

The roles of the researchers in the data collection and analysis processes were expressed clearly. The characteristics of the participants in the study group were defined together with the reasons for their inclusion in the study. In addition, how the interviews were conducted during the data collection process, how the data collection tool was used, how the obtained data were associated and presented were explained in detail (LeCompte & Goetz, 1982).

Results

The repertoire grid form applied to the participants was analyzed and 240 cognitive constructs related to ideal peer qualities were produced by the participants. When the frequency of expressions of cognitive constructs is examined, the first twelve cognitive constructs that are most frequently expressed are (1) honest [η=18, 7.5%], (2) considerate [η=10, 4.2%], (3) trustworthy [η=10, 4.2%], (4) respectful, [η=9, 3.8%], (5) hardworking [η=8, 3.3%], (6) merciful [η=8, 3.3%], (7) generous [η=7, 2.9%], (8) kind [η=7, 2.9%], (9) helpful [η=7, 2.9%], (10) funny [η=6, 2.5%], (11) decided [η=6, 2.5%], (12) friendly [η=6, 2.5%]. As a result of the classification, 7 main construct groups were determined based on 240 cognitive constructs. These groups are shown in Table 4.

Table 4. Cognitive Constructs and Groups

Discipline/Rationality (N=49, 20.4%)								
knowledgeable	[16]	270	critical thinker	[4]	147	careful	[18]	69
hardworking	[19]	260	earnest	[3]	144	decided	[8]	69
determined	[18]	240	successful	[18]	144	decided	[3]	68
knowledgeable	[4]	225	elite	[20]	144	determined	[12]	63
hardworking	[18]	216	decided	[7]	140	prudent	[4]	60
interrogator	[7]	216	hardworking	[22]	130	knowledgeable	[23]	58
responsible	[8]	216	diligent	[21]	126	interrogator	[11]	56
serious	[21]	210	clever	[8]	126	responsible	[20]	56
successful	[11]	207	patient	[24]	120	sensible	[3]	51
knowledgeable	[19]	198	elite	[8]	115	capable of constructive criticism	[13]	46
interrogator	[22]	189	hardworking	[7]	110	hardworking	[12]	42
Not arrogant	[14]	180	laconic	[8]	96	decided	[23]	27
hardworking	[16]	168	patient	[21]	96	hardworking	[17]	23
decided	[22]	161	successful	[20]	90	punctual	[8]	23
decided	[17]	154	Responsible behavior towards those around	[10]	84	patient	[11]	21
meticulous	[18]	154	purposeful	[4]	80			

hardworking	[21]	147	solution-oriented thinking	[10]	70			
Ethical Attitude and Behavior (N=51, 21.3%)								
ethical	[1]	300	honest	[3]	200	conscientious	[22]	132
honest	[13]	270	honest	[11]	200	keeping promise	[13]	130
honest	[22]	260	honest	[1]	200	confidant	[13]	126
honest	[9]	252	honest	[24]	198	not backbiter	[14]	126
trustworthy	[24]	250	discreet	[6]	192	frank	[17]	120
trustworthy	[23]	248	Truthful	[12]	184	honest	[14]	120
honest	[7]	240	not two faced	[20]	180	honest	[23]	116
trustworthy	[6]	240	honest	[20]	176	trustworthy	[15]	102
honest	[21]	234	loyal	[5]	168	not backbiter	[6]	84
honest	[17]	230	trustworthy	[10]	162	direct	[5]	60
trustworthy	[5]	230	trustworthy	[13]	160	honest	[18]	54
honest	[5]	224	closed mouth	[9]	155	defending the righteous	[6]	46
trustworthy	[9]	224	confidant	[15]	144	honest	[19]	42
honest	[12]	220	not a liar	[13]	144	keep word	[4]	40
trustworthy	[2]	220	conscientious	[7]	138	not backbiter	[13]	23
trustworthy	[15]	210	confidant	[20]	135	trustworthy	[16]	22
fair	[11]	200	honest	[2]	132	closed mouth	[10]	18
Communication Skill (N=31, 12.9%)								
respectful	[13]	297	respectful	[5]	144	respectful	[19]	57
respectful	[3]	243	kind	[1]	138	good listener	[15]	54
respectful	[1]	234	polite	[1]	120	listener	[2]	52
kind	[3]	216	respectful	[11]	120	suave	[22]	52
respectful	[24]	208	respectful	[16]	120	suave	[7]	52
suave	[8]	208	communication	[18]	92	kind	[8]	48
empathy	[22]	200	not offending	[14]	90	suave	[17]	44
empathy	[7]	184	kind	[24]	88	not judicial	[15]	38
respectful	[14]	180	kind	[19]	84	talkative	[2]	31
empathy	[17]	176	talkative	[11]	72			
kind	[23]	168	kind	[9]	58			
Humanistic Values (N=55, 22.9%)								
friendly	[4]	290	tolerant	[24]	154	faithful	[14]	84
merciful	[15]	288	merciful	[8]	147	generous	[21]	81
warm	[5]	243	helpful	[19]	138	forgiver	[13]	72
unjealous	[20]	240	helpful	[3]	130	helpful	[7]	72
faithful	[9]	230	self-sacrificing	[17]	125	faithful	[6]	69
merciful	[23]	224	altruistic	[21]	120	helpful	[22]	66
faithful	[10]	216	self-sacrificing	[12]	120	benevolent	[11]	63
modest	[12]	207	warm	[6]	120	appreciative	[1]	63
merciful	[17]	198	friendly	[12]	115	helpful	[17]	63
warm	[2]	198	forgiver	[10]	112	generous	[3]	42
self-sacrificing	[21]	192	not vindictive	[9]	108	helpful	[14]	38
loving	[14]	192	generous	[17]	100	tolerant	[9]	33
faithful	[2]	184	self-sacrificing	[19]	100	generous	[4]	26
warm	[19]	176	generous	[22]	96	merciful	[22]	25
favorable	[9]	175	merciful	[2]	96	merciful	[7]	24

favorable	[6]	168	warm	[9]	96	warm	[1]	24
self-sacrificing	[20]	161	generous	[12]	88	tolerant	[18]	23
merciful	[11]	161	generous	[7]	84			
favorable	[15]	161	tolerant	[23]	84			
Leadership (N=16, 6.7%)								
supportive	[23]	279	supportive	[13]	108	supportive	[1]	44
experienced	[16]	216	assisting	[10]	92	rapid	[5]	31
self-confident	[16]	216	leadership	[16]	80	self-confident	[6]	25
brave	[18]	216	entertaining	[16]	69	talented	[12]	24
sociable	[5]	130	supportive	[15]	56	possessive	[14]	16
open minded	[18]	110						
Extraversion (N=18, 7.5%)								
funny	[6]	216	affectionate	[3]	147	entertaining	[3]	30
humorous	[4]	208	likes snack	[4]	108	humorous	[21]	25
entertaining	[8]	200	affectionate	[1]	92	positive	[20]	25
funny	[1]	196	smiling	[5]	75	entertaining	[24]	21
entertaining	[2]	168	amiable	[24]	75	sympathetic	[19]	20
entertaining	[23]	155	affectionate	[24]	46	entertaining	[15]	13
Social Skills (N=20, 8.3%)								
considerate	[23]	290	considerate	[24]	132	thoughtful	[9]	81
feeling precious	[10]	290	considerate	[6]	126	considerate	[2]	63
restful	[10]	207	thoughtful	[2]	110	express liking	[14]	60
considerate	[5]	203	considerate	[20]	104	conservative	[21]	48
considerate	[12]	161	art lover	[4]	100	sharing	[16]	44
considerate	[19]	147	considerate	[11]	90	moderate	[10]	38
compatible	[16]	138	considerate	[15]	85			

Table 4 shows that there are 7 main constructs groups. According to the number of cognitive constructs and their relative importance in these main construct groups, the 7 dominant cognitive constructs are as follows:

Discipline/rationalism: There are 49 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) knowledgeable [16, 270], (2) hardworking [19, 260], (3) determined [18, 240].

Ethical attitudes and behaviors: There are 51 cognitive constructs in this group. According to the relative importance, the first three cognitive constructs are (1) ethical [1, 300], (2) honest [13, 270], (3) honest [22, 260].

Communication skills: There are a total of 31 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) respectful [13, 297], (2) respectful [3, 243], (3) respectful [1, 234].

Humanistic values: There are 55 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) friendly [4, 290], (2) merciful [15, 288], (3) warm [5, 243].

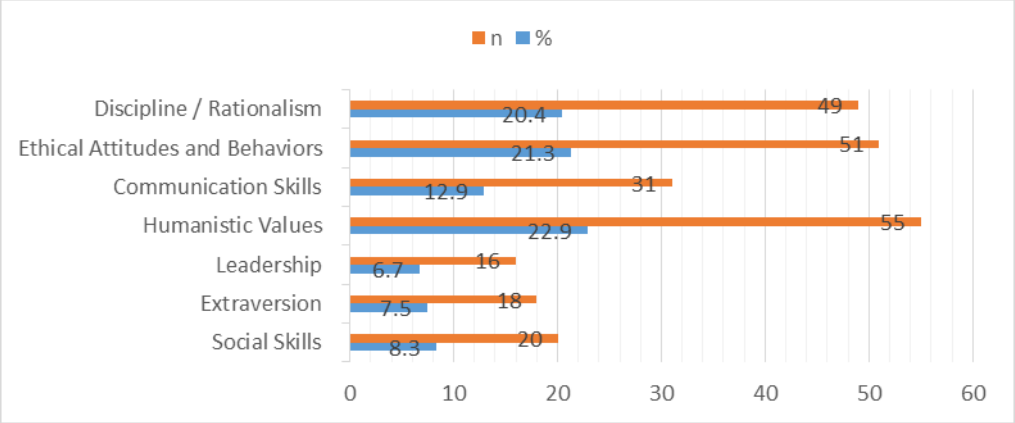
Leadership: There are a total of 16 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) supportive [23, 279], (2) experienced [16, 216], (3) self-confident [16, 216].

Extraversion: There are 18 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) funny [6, 216], (2) humorous [4, 208], (3) entertaining [8, 200].

Social skills: There are 20 cognitive constructs in this group. According to the relative importance level, the first three cognitive constructs are (1) considerate [23, 290], (2) feeling precious [10, 290], (3) restful [10, 207].

The cognitive constructs of the participants regarding their ideal peer qualities were brought together in seven different groups. Since the frequency value of some cognitive constructs is more than one, these cognitive constructs were accepted as a single construct. The number and percentages of participants in each constructs group are shown in Figure 2.

Figure 2. Number and Percentages of Participants in Cognitive Constructing Groups



According to Figure 2, fiction groups are respectively Humanistic Values [η=55, 22.9%], Ethical Attitudes and Behaviors [η=51, 21.3%], Discipline/ Rationalism [η=49, 20.4%], Communication Skills [η=31, 12.9%], Social Skills [η=20, 8.3%], Extraversion [η=18, 7.5%], Leadership [η=16, 6.7%].

According to the rankings of the participants, the relative importance levels of the cognitive constructs were obtained. The results, each cognitive construct score with the numbers decreasing from 10 to 1, obtained by multiplying the totals respectively are shown in Table 5.

The data in Table 5 has been analyzed in two different ways. First, the total relative importance scores given by each participant for the cognitive construct groups were determined and shown separately in each row. Secondly, the total participant relative importance score for each cognitive construct group was found and their averages were calculated. If the average relative importance levels of the cognitive construct groups are taken into account, this is the order in descending order; Ethical Attitudes and Behaviors [η=9, 37.5%], Discipline/Rationalism [η=7, 29.1%], Humanistic Values [η=5, 20,8%], Communication Skills [η=1, 4.1%], Social Skills [η=1, 4.1%], Leadership [η=1, 4.1%], Extraversion [η=0].

Table 5. Relative Significance Level of Cognitive Constructions Groups

Participants	Discipline rationalism	Ethical attitudes and behaviors	Communication skills	Humanistic values	Leadership	Extraversion	Social skills
1		500	492	87	44	288	
2		352	83	478		168	173
3	263	200	459	172		177	
4	512	40		316		316	100
5		682	144	243	161	75	203
6		562		357	25	216	126
7	466	378	236	180			
8	645		256	147		200	
9		631	58	642			81
10	154	180		328	92		535
11	284	400	192	224			90
12	105	404		530	24		161
13	46	853	297	72	108		
14	180	246	270	314	16		60
15		456	92	449	56	13	85
16	438	22	120		581		182
17	177	350	220	486			
18	823	54	92	23	326		
19	458	42	141	414		20	147
20	290	491		401		25	104
21	579	234		393		25	48
22	480	392	252	187			
23	85	364	168	308	279	155	290
24	120	448	296	154		142	132
Total	5900	8281	3868	6905	1712	1820	2517
Average	245.8	345	161.1	287.7	71.3	75.8	104.8

Table 5 shows the total and average values in twelve lines. These values represent the relative importance level of pre-service teachers in each cognitive construct group. According to the average scores, the cognitive construct groups are listed in descending order: Ethical Attitudes and Behaviors [$\bar{x}$=345], Humanistic Values [$\bar{x}$=287.7], Discipline/Rationalism [$\bar{x}$=245.8], Communication Skills [$\bar{x}$=161.1], Social Skills [$\bar{x}$=104.8], Extraversion [$\bar{x}$=75.8], Leadership [$\bar{x}$=71.3].

Discussion

In this study, which was conducted to reveal the ideal peer qualities of university students, 240 cognitive constructs related to ideal peer qualities were found. If the frequency of expressions of cognitive constructs is taken into account, it has been observed that university students primarily seek characteristics such as honest, considerate and trustworthy. In addition to these, they look for characteristics such as respectful, hardworking, merciful, generosity, kindness, helpfulness, funny, decided and sincerity.

Based on 240 cognitive constructs, the main contract groups are listed as humanistic values, ethical attitudes and behaviors, discipline/rationalism, communication skills, social skills, extroversion, and leadership according to qualified number (number of participants).

University students expect a deep considerate, sincerity, love and tolerance in the group of humanitarian values, which takes the first place. They often need the support and help of their friends in their education life. In fact, this group often includes qualities such as friendly, merciful, warm, faithful, self-sacrificing, helpful, generous, and tolerant. These qualities can be considered as the acts of university students who feel importance of their family in the previous period of their life. Buote et al. (2007) found that there is a positive relationship between the quality of university students' new friendships and their adaptation to the university.

Students who have difficulty in self-management due to the life habits often need the help, sacrifice and trust of their friends. Many of the human values have been associated with Maslow's physiological, safety and belonging levels in the hierarchy of needs (Maslow, 1943).That is, university students often need friend support in order to be successful. The number of qualities expressed in the human values fiction group is higher than the other groups. It shows how important moral and material support of friends in university life is for students. The concept of "intimacy", which forms the basis of views and relationships with their peers, is important for adolescents as it expresses emotions (Bayhan & Işıtan, 2010). Richey and Richey (1980) showed that adolescents need the social support provided by their best friends. In a study conducted by Roberts-Griffin (2011) showed that trust, honesty and supportiveness have been emphasized more than other qualities. In a study conducted in Turkey, Nas (2017) found that students' beliefs are an important factor in the friendship relationships of university students.

Ethical attitudes and behaviors are at the second in terms of qualities. In this group, the students have emphasized friendship, reliability, and some moral behavior. In fact, qualities such as reliable, honest, confidential, straightforward, correct, promising and fair are emphasized by students. The students have needed reliable relationships to share their feelings. This construct is related to students' emotional needs, which are important in protecting their mental health. Students give importance to ethical principles and expect a trustworthy personality from their friends. This is seen as a precondition for the needed friendship. As a matter of fact, schools are considered as important environments for the academic and socio-emotional development of young students (Eccles & Roeser, 2003; Pittman & Richmond, 2008).

Students in the discipline/rationality group, which ranked third in terms of the number of qualifications, drew attention to some qualities that can be evaluated within the scope of personality traits such as intellectual skills and responsibility. Some of these are qualities such as questioning, hardworking, decided, successful, knowledgeable, responsible, determined, critical thinking.

In the discipline/rationality group, students mostly referred to cognitive characteristics and skills as a requirement of their academic development. In this group, students expect their peers to be goal oriented and self-discipline. Since

friends with these qualities can be inspiration for them. The proverb "Tell me your friend, I'll tell you who you are" partially explains the reason for the students' expectations in the discipline/fluency group. University students express these qualities in order to ensure their academic development and motivating themselves with the concern of moving away from discipline.

Jensen-Campbell and Malcolm (2007) revealed that students with high responsibility personality traits experience less victimization, better quality friendships, and higher peer acceptance. Tozlu (2014) revealed that peer groups have an academic effect on university students. Flashman (2012) have found that successful students preferred friendships with other successful students, and these relationships were resolved when the level of success changed. Poldin, Valeeva, and Yudkevich (2014) found that students make friendships with students with similar academic achievement and ask for help. The study found that more academically successful students were more popular in study help networks. In another study, it was suggested that adolescent peer groups have similar academic achievements (Chen, Chang, & She, 2003). According to Hartup and Stevens (1997) friends shape people's self-esteem and well-being.

Among the main construct groups, communication skills are fourth in terms of the number of qualifications. University students want to be understood. Qualities such as respectful, kind, empathetic, good listener, suave communication skill draw attention for the main construct group. This construct group forms a basis for students who want to share their feelings and make friendships. The qualities, which are communication skills and humane values expressed in the main construct group, show that the students tried to stay away from people whose selfish features were dominant during this period. Making friends, maintaining friendly relationships and confronting others provide equality (Hartup & Stevens, 1997).

In the social skills main construct group, which is ranked fifth in terms of the number of qualifications expressed, students mostly expect their peers to be considerate, thoughtful and compatible. These qualities show that university students expect their peers to be socialized individuals who know the culture of society. Therefore, their friends with whom they made relationships will be able to understand the expectations required by different contexts, environments and situations. University students think that choosing friends with strong social aspects are also beneficial for their socialization skills. Hartup and Stevens (1997) concluded that friends make significant contributions to socialization in life periods when individuals need to gain the skills that they need to achieve their goals. Adolescents need social support from friends (Richey & Richey, 1980). In fact, Tozlu (2014) found that friends had social effects as well as academic and emotional effects on university students. Adolescence is a period of social relationships outside the family. In this period, individuals become more independent and tend to socialize with their peers. Relationships established by adolescents with their peers contribute to their emotional and social development (Çiftçi, 2018).

Extroversion is the sixth in terms of the number of qualities expressed. In this theme, students expect their peers to have entertaining and witty, affectionate and

funny qualities. In this theme, the students drew a typology of a cheerful, positive friend, away from pessimism, pessimism, looking positively on life in order to unleash their energies and overcome the stress caused by their academic responsibilities. In this theme, the students drew a typology of a cheerful, positive friend, away from pessimism, pessimism, looking positively on life, in order to unleash their energies and overcome the stress caused by their academic responsibilities. Extraversion individuals make friends faster and have a large number of friends (Harris & Vazire, 2016; Anderson, John, Keltner, & Kring, 2001).

Leadership is the last among the main construct groups. University students expect their friends to be supportive, experienced, self-confident, brave, sociable and leader. At the university, which can be described as the last bridge to start life, the students stated that they attach importance to such qualifications. In this way, they are looking for their role in the path to their future. The qualities expressed in the leadership main construct group actually reflect the preferences of university students among their peers. In the research conducted by Sübaşı (2010), the students who cooperate and have leadership characteristics are preferred more than contentious students. In addition, the cooperative students are preferred more than docile students. Based on the ideal qualities such as supportive, brave and assertive expressed in the leadership main construct group, the university students attach importance to qualities such as cooperation and socialization, so they are distant to qualities such as docility and social anxiety. Studies have also revealed that there is a negative relationship between cooperation and social anxiety. In addition, these studies have determined that individuals with social anxiety exhibit more docility behaviors than those without anxiety (Heinrichs & Hofmann, 2001; Hope, Sigler, Penn, & Meier, 1998; Walters & Inderbitzen, 1998). These results obtained in the literature with the data obtained from the leadership main construct group show consistency.

When cognitive constructs are ranked as decreasing scores considering the average importance scores (relative importance levels) as well as the number of participants, ethical attitudes and behaviors rank first, followed by humanitarian values, discipline/rationalism, communication skills, social skills, extroversion and leadership. The rankings of the main construct groups in terms of the number of participants and their relative importance were substantially similar. This similarity can be considered as an important evidence for the reliability of the findings. The only difference between the relative importance ranking and the number of participants is that the first two themes (humanistic values, ethical attitude and behavior) are replaced.

Conclusions

Students primarily need friendship relationships shaped by the expectation of helping each other, altruism and kindness on the basis of understanding and trust. Students seek qualities such as humanistic values, ethical attitudes and behaviors, discipline and rationality, communication skills, social skills, and extroversion. It

can be said that students need understanding, sincerity, support and trust from their friends in order to cope with life difficulties. In addition, it has been observed that financial and moral support of friends in university life is important for students' adaptation.

They expect ethical attitudes and behaviors from their peers so that students can establish reliable relationships in which to share their feelings. It was concluded that the ethical attitudes and behaviors of students' peers are important for the socio-emotional development of the students. Students want peer qualities that support their academic development and motivation, increase their intellectual knowledge, and friends who are questioning, successful, critical thinking, diligent.

Students care about peer qualities such as selflessness, respect for their personal boundaries and kindness. In addition, students want to establish relationships free from communication barriers. At the same time, students care about their characteristics such as compatibility and sociability. Students want to establish relationships with their peers who know how to behave. The students like the profile of friends who are entertaining and have a positive outlook on life, who are sociable and have leadership qualities.

Enrolled students should be informed about the ideal, anticipated peer qualifications identified in the orientation program within the scope of this and other similar studies. Students who learn about the expectations of their peers from them are more likely to make easier and more sustainable friendships. Friendships can be an important factor in reducing the level of dropout.

Faculty members should take into account the findings of this research in their relationships with students. A faculty member who is aware of the friend qualities that university students expect from their peers is expected to have better relations with students than those who are not.

University administrations should provide opportunities for students to develop their leadership and social skills with the activities they organize. The findings obtained from similar studies to be conducted in Turkey and abroad can be compared with the findings of this research. National and international similarities and differences can be discussed and interpreted.

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Essential Components of Miller's Soulful Curriculum Theory

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The soulful curriculum makes the educational environment dynamic and robust. This study's primary purpose was to identify the essential components of the soulful curriculum from Miller's viewpoint. An inductive approach and content analysis were applied to achieve this purpose. The essentials, principles, and techniques of the soulful curriculum were extracted from Miller's perspective, and finally, the critical components of the soulful curriculum were inferred and explained by integrating the essentials, principles and techniques of Miller's Curriculum. Accordingly, we reviewed Millers' two seminal works called *Holistic Education* and *Education and the Soul: Toward a Spiritual Curriculum*. The cause for selecting these two works was comprehensiveness and consistency in expressing John Miller's ideas fundamental to orientation. By integrating the results, the essential components of the soulful curriculum were categorized into six dimensions: holism, introspection, naturalism, connectivism, balancing, and energization.

Keywords: soulful curriculum, holism, naturalism, connection, John Miller

Introduction

A soulful curriculum attempts to find some ways for identifying students' talents (Nutall, 2006; Miller, 2019). Encountering such a curriculum, students can obtain an opportunity to find out some questions about the meaning and destination of life, glorification of joyfulness and beauty, appreciation of vitality, development of creative capacities, identification of the limitations in some dimensions of a specified curriculum, social evolution, and ability to pass through life's phases calmly and without tension (Nutall, 2006). Using soulful elements, such as meditation, imagination, contemplation and presence in the curriculum has many positive effects such as decreasing teachers' and students' distress, increasing concentration, enhancing safe interpersonal relations, raising awareness of self and others, truly encountering negative feelings, increasing positive feelings such as joyfulness and passion, decreasing addictive and destructive behaviours, improving career, sport and educational performance, motivating, and increasing creativity and positive change in the brain structure (Irwin & Miller, 2016). By considering the soul as a source for energy and providing necessary arrangements in the way of morale boosting, it is possible to elicit expansion of the soul in curriculum. The soul is an energy source in human beings and causes motive and vitality. The deepest feelings and tendencies are located in the soul, and when discovered and

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truly applied, a deep satisfaction will be generated (Miller, 2000). When the soul is being ignored, students are converted into automated robots or templates so that their minds will be inactively filled with teachers' knowledge (Peterson, 1999).

As noted by Miller (1996), a mechanistic view on education results in the absence of joyfulness and vitality in the learning process. Curriculum is a living entity and it is a must to avoid supposing it as a map (Pinar, 2011). It is instead achievable by creating the beauty of soulful learning in the classroom (Sierk, 2014). Keeping distance from the meaning of curriculum as a map stems from the notion "currere" which distinguishes this reality that each student had his or her own special past, present and future, and to let the special nature of each student shape his or her life and practices in the classroom. An education system with a dynamic and living curriculum tries to identify and foster all personal and physical dimensions of learners and their effects on the curriculum (Sierk, 2014). However, the common curricula ignore some of the dimensions and keep a mechanistic and partial view toward human beings. Branching and partitioning curricula, focusing on objective tests, standardizing knowledge and isolating students from nature are other problems in the common curricula (Miller, 2010; 2019). Ben David (2014) conceives contemporary educational programs as mind-to-mind education in which students' minds are expected to be filled with information and mental content of teachers; in return, an ideal education is the one that involves the heart and soul of students in learning process.

As one of the contemporary experts in curriculum, John P. Miller, criticizes the competitive context in education and the branching and partitioning curricula, and instead, presents comprehensive and logical guidelines on designing and composing a holistic and soulful curriculum. He is one of the main facilitators of soulful curriculum in the educational network and his studies focus on holistic and soulful learning, meditation in educational sessions and curriculum orientations (Ontario Institute for Studies in Education, 2012). Thus, this study aimed at describing and explaining Miller's curriculum theory and identifying the essential components of a soulful curriculum in his ideas and thoughts.

Methods

This study is a content analysis of Miller's selected works. The analysis unit used specialized words and concepts. A researcher-made check-list was used for data collection. A recoding process by a second evaluator was used in order to evaluate reliability according to the content analysis method. Two key works of Miller were selected, and then five pages of each work were picked out (a total of ten pages). These pages were delivered to the second recoder, and at last, the amount of congruence between the findings of the two recoders was calculated. The observed value was equal to 0/89. The validity evaluation was performed based on specialized judgement. For this aim, five specialists in the education field were appointed to judge and report the processes of concept selection and coding. They reported high congruence among the findings evidenced by the validity of coding process.

Results

Fundamental Orientations of John Miller's Thoughts

In this section, the basic orientations of Miller's thoughts are explained by mainly focusing on his two comprehensive works, namely *Education and the Soul: Toward a Spiritual Curriculum* (Miller, 2000) and *The Holistic Education* (Miller, 2019). Texts from these and other related works are directly quoted or indirectly extracted and cited. Then, essential components of the soulful curriculum are implicitly or explicitly extracted from his viewpoints. In order to obtain a purposive review of Miller's works, answering three core questions was considered the basis of this study: (1) What are the necessity and causes of developing a soulful curriculum from the viewpoint of Miller? (2) What are basic principles of a soulful curriculum from the viewpoint of Miller? and (3) What are the main techniques for ensouling a curriculum according to Miller? The answers to these three core questions have been shown in Tables 1-3.

1. What are the necessity and causes of developing a soulful curriculum from the viewpoint of Miller?

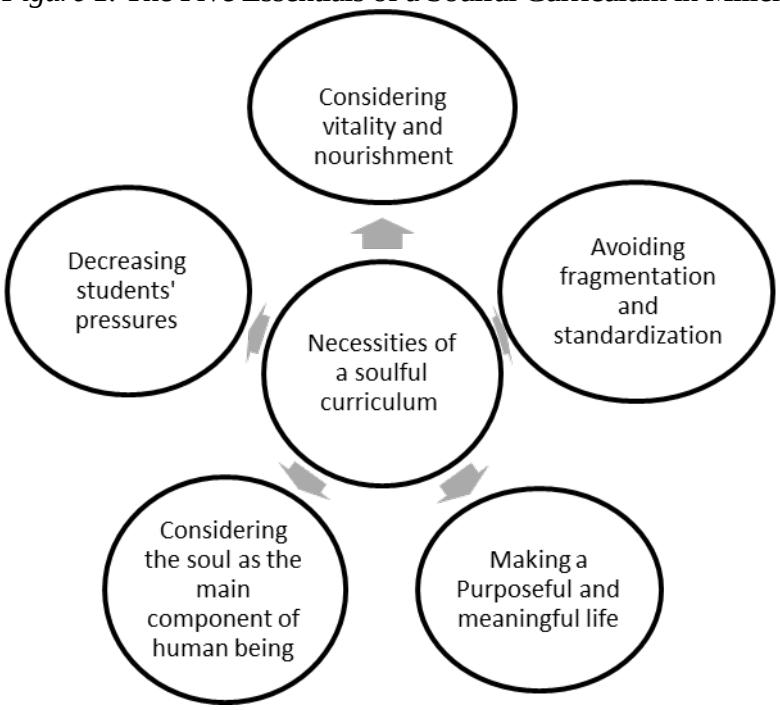
Table 1. Essentials of the Soulful Curriculum from Miller's Viewpoint

Text	Primary concepts	Essentials
Without soul, our society seems to lack a basic vitality or energy. By reclaiming soul, we find that the classroom or any educational encounter takes on a new vitality and purpose. Students and teachers no longer go through the motions, but instead feel alive and nourished in what they do (Miller, 2000, pp. 3-4). By bringing soul into education, we can make our classrooms more vital and energizing places (Miller, 2000, p. 9). The pressure for quantifying all learning without concern for quality represses the student's soul. Instead, we can learn to bring onto the Earth an education of deep joy where the soul once again learns to sing (Miller, 2000, p. 12).	Attention to vitality, Energization, Nourishment or joyfulness in educational systems	Attention to vitality and Nourishment or joyfulness in educational systems
The pace of life itself is soulless. We all seem in a mad rush to acquire and consume. Children too feel the pressure. We are told constantly that the purpose of schooling is to prepare our children to compete in a global economy (Miller, 2000, pp. 3-4). We now live in a period when educators are more interested in testing students than exploring how they can learn and develop as human beings (Miller, 2007, p. vii). Education in many cases has become a series of tests and hurdles rather than focusing on learning. The more we emphasize tests and rewards, the less children learn. As a result, schooling can become a grim pastime where children feel a variety of academic and social pressures (Miller, 2000, p. 4).	Mental pressures, Global competition, Testing, Social pressures	Decreasing imposed mental pressures on students
Soulful elements such as meditation, imagination, contemplation and presence in curriculum have many	Soulful elements, Secrets and innermost	Considering the soul as the main

effects, including among others, reducing teachers' and students' stress and increasing their interpersonal relations, motivation, self-awareness to detect harmful reactive patterns of thought, feeling and action, positive emotions, including happiness and compassion, enhancing performance, whether in work, sports, or academics, stimulating and releasing creativity and so on (Irwin & Miller, 2016, p. 95). The holistic curriculum is rooted in the presence of the teacher (Miller, 2007, p. 190). To deny spirit is to deny an essential element of our being and thus diminish ourselves and our approach to education. By bringing soul more explicitly into the educational process, we can have an education for the whole person rather than a fragmented self (Miller, 2000, p. 9). We are not capable of union with one another on the deepest level until the inner self in each one of us is sufficiently awakened to confront the inmost spirit of the other (Miller, 2019, p. 33). In the industrialized society we live in our heads, denying our deeper knowing and intuitions (Miller, 2019, p. 6). This tranquil, well founded, wide-seeing soul is no express-rider, no attorney, and no magistrate: it lies in the sun and broods on the world (Miller, 2000, p. 29). We can awaken the inner self through contemplation and love (Miller, 2019, p. 33).	wonder of a human being	and most necessary component of a human being
Unfortunately, the human world since the Industrial Revolution has stressed compartmentalization and standardization. The result has been fragmentation. This fragmentation permeates everything. First, we have separated economic life from the surrounding environment and the result has been ecological devastation. We seem to have poisoned everything, including the vast expanses of the oceans, because we see ourselves as separate from the organic processes that surround us. Second kind of fragmentation is social fragmentation. Third form of fragmentation is within ourselves. Finally, another form of fragmentation is in our culture –a lack of shared sense of meaning, or mythology (Miller, 2019, p. 5). The reason why the world lacks unity and lies broken and in heaps is because man is disunited with himself. We find ourselves disconnected from our bodies and our hearts. Education specifically has done much to sever the relationship between head and heart (Miller, 2019, pp. 5-6).	Compartmentalization, Fragmentation, Standardization	Avoiding fragmentation and standardization
A soulful approach to education can help bring vitality and a deeper sense of purpose and meaning to classrooms (Miller, 2000, p. 10). Holistic education assumes the individual should build his/her own identity, the real meaning and purpose of the life through the connection with society, nature and spirituality (Miller & Nozawa, 2005, p. 45). Spiritual intelligence or wisdom is one of the main goals of transpersonal psychology. Wisdom is intelligence rooted in the soul. The ancients call this the 'thinking heart.' Wisdom links intuition and intelligence in order to deal with the large questions: What is our role in the universe? How can we deal with human suffering? (Miller, 2019, p. 31).	Purpose, Meaning, Identity	Making a purposeful and meaningful life

Considering the items in Table 1, the essentials of a soulful curriculum from the viewpoint of Miller can be depicted as Figure 1.

Figure 1. The Five Essentials of a Soulful Curriculum in Miller's Opinion



2. What are basic principles of a soulful curriculum from the viewpoint of Miller?

Table 2. Basic Principles of a Soulful Curriculum from the Viewpoint of Miller

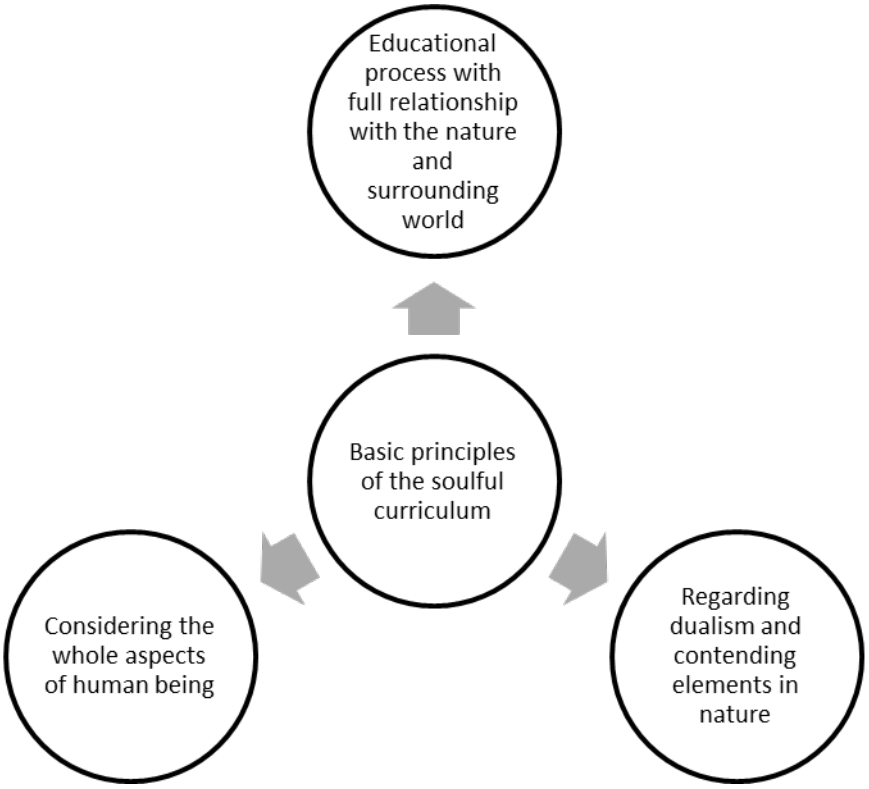
Text	**Primary concepts**	**Basic principles**
The focus of the holistic education is on relationships: the relationship between linear thinking and intuition, the relationship between mind and body, the relationships among various domains of knowledge, the relationship between the individual and community, the relationship to the earth, and our relationship to our souls (Miller, 2019, p. 89). The holistic curriculum sees the student in relation to community. Community refers to the classroom, the school community, the community of one's town and nation, and the global community. The student develops interpersonal skills, community service skills and social action skills (Miller, 2000, p. 13). Spirituality manifests a relationship between inner life and endless world, achieved by visualization, meditation and dream work (Miller, 1983, p. 230). There are many different ways in which we can connect academic disciplines and school subjects. For example, Waldorf education connects subjects through the arts	Connectedness, Relationship, Counterdependence, Dynamism, Unity, Harmony	Education in full relationship with the nature and the surrounding world

(Miller, 2019, p. 17). This connection can involve listening to what Western industrialized society can no longer hear these voices, which include the sounds of animals, the rippling of the stream, or even the roar of the wind. This connection involves seeing ourselves as part of the web of life rather than separate from the earth (Miller, 2019, p. 17). The soul is the deepest part of being, which at the same time is connected to the highest principle of the universe – God, or the Tao (Miller, 2019, p. 31). For centuries, various philosophical and spiritual traditions have discussed the two selves of human nature. One self is our ego, which is our socialized sense of who we are. It involves all the roles we play such as wife/husband, father/mother, daughter/son, as well as our job identity. Beyond this self is what has been called our soul, or 'big person'. The soul opens to us when we hear a piece of music, see a child at play, are deeply involved in our work, or are simply being present in nature. Our ego sees self as separate from everyone else and often competing with others in a never-ending struggle. There is no struggle for the soul since it senses a deep connection to others and all life. It realizes separation is an illusion exposed by a fundamental unity (Miller, 2019, p. 17). Transcendental education is located in the higher self or center in which an individual experiences unification or connection with other forms. In such education, self-transcendence is the optimal purpose of education (Miller, 1983, p. 96). Nature at its core is interrelated and dynamic. We can see this dynamism and connectedness in the atom, organic systems, the biosphere, and the universe itself. Unfortunately, the human world since the Industrial Revolution has stressed compartmentalization and standardization. The result has been fragmentation. Nature is composed of interconnected systems that form multilevel structures. At each level are 'integrated, self-organizing wholes consisting of smaller parts and at the same time, acting as parts of larger wholes' (Miller, 2019, p. 5). Soul tends to connect rather than separating (Miller, 2000, p. 28). Love joins the individual soul with the world soul (Miller, 2019, p. 24). Spiritual intelligence or wisdom is one of the main goals of transpersonal psychology (Miller, 2019, p. 31). Intuition is a direct knowing. In contrast, linear cognition involves a sequential, observable process. Intuition was characterized as seeing without glasses, hearing without filters, touching with ungloved hand. The immediate character of intuition does not imply accuracy, rightness, or moral goodness. It does imply commitment and clarity. In the intuitive mode, there is no mediator (Miller, 2019, p. 92). Wisdom links intuition and intelligence in order to deal with the large questions (Millller, 2019, p. 31).		

All things have arisen mutually and mutually supportive, in the sense that they require one another as a condition of their existence. The man requires the woman; the woman, the man; the night requires the day; the day the night; the good, the bad; the bad, the good and so on (Miller, 2019, p. 10). The holistic curriculum attempts to restore a balance between linear thinking and intuition. Various techniques such as metaphor and visualization can be integrated with more traditional thinking approaches so that a synthesis is achieved between analysis and intuition (Miller, 2019, p. 16). The yin and yang need each other for there to be health in the cosmos, the earth, cultures, institutions (e.g., schools and classrooms), and the individual. If one predominates to the exclusion of the other, sickness arises. One could argue that Western culture and education have been dominated by the yang, which tends to emphasize the rational, the material, the masculine, and the individual to the exclusion of the intuitive, the spiritual, the feminine, and the group (Miller, 2019, p. 10). This imbalance in the Western life has led to sickness in cultures and institutions (Miller, 2019, p. 10). A soulful curriculum recognizes and gives priority to the inner life. It seeks a balance and connection between our inner and outer lives (Miller, 2000, p. 49). The focus of holistic education is on relationships: the relationship between linear thinking and intuition (Miller, 2019, p. 16). Providing opportunities for rest, renewal, and ritual every seven days and seven years would help heal the dualisms that exist in ourselves and in our workplaces. These dualisms include "masculine/feminine; yin/yang; day/night; north/south; east/west; human/divine" (Miller, 2007, p. 44)	Mutuality, Balance, Integration,	Regarding dualism and contending elements in the nature
Holistic education considers a broader conception of learning and a vision of the whole child (Miller, 2007, p. 7). To link body, mind, and spirit is to seek the wholeness that is at the heart of holistic learning. (Miller et al., 2005, p. 235). Transformational learning acknowledges the wholeness of the child. The curriculum and child are no longer seen as separate, but as connected, but as a whole (Miller, 2019, p.14). The aim of the transformation position is the development of the whole person. The student is not reduced to a set of learning competencies or thinking skills, but is seen as a whole being. Certainly when we view the student as less than a whole person, we diminish the opportunity for authentic learning (Miller, 2019, pp. 14-15). From a holistic perspective, it is possible to see the whole human body, including the smallest cell, as learning, growing, and developing (Miller, 2007, p. 90). A broader vision of education is needed that includes a focus on the whole person (Miller, 2000, p. 4).	Holism; Growth of a person as a whole	Considering the whole aspects of human existence in education

Considering the items in Table 2, the main principles of a soulful curriculum according to Miller can be depicted as Figure 2.

Figure 2. Three Basic Principles of a Soulful Curriculum from the Viewpoint of Miller



3. What are the main techniques for ensouling a curriculum according to Miller?

Table 3. The Basic Techniques for a Soulful Curriculum from the Viewpoint of Miller

Text	**Primary concepts**	**Basic techniques**
The damage done to inner life, to aloneness and quietness, through the imposition of banal or pornographic or violent images by television is a considerable wound. I have written extensively on the use of meditation, by teachers, to help them become more centered in their lives and in the classroom. However, the use of meditation by students is a much more difficult and controversial issue. Despite the difficulties, more and more people are beginning to make the case for meditation in the schools (Miller, 2000, p. 50). One important reason for requiring meditation is that it can be a form of self-learning. Insightful meditation considers mindfully watching our own experience, for gaining deeper insight into ourselves and learning from ourselves and own experiences (Miller & Nozawa, 2005, p. 43). Bonaventure considers three eyes for a triple vision, as explained: the eye of flesh, of reason, and of contemplation;	Quietness, Centralization, Insightful presence, Thoughtful vision, Deep vision, Personal experiences, Being in the moment	Meditation

the eye of flesh, to see the world and what it contains; the eye of reason, to see the soul and what it contains; the eye of contemplation, to see God and that which is within Him (Drake & Miller, 1991, p. 5). Meditation encourages being in the moment and thus facilitates our presence as teachers. As the practice develops, teachers in Professor Miller's class find they are less reactive in the classroom. For example, one teacher in a previous study said, "I don't remember the last time I raised my voice." She added that a student once asked, "Miss, how come you're so calm all the time?" (Irwin and Miller, 2016, p. 88). We do not need to teach young children to meditate. In many ways they already meditate with their focus on the here and now (Miller, 2000, p. 57). Since many adolescents feel a great deal of stress related to schoolwork and or peer pressure, meditation could serve as a preventative to stress-related physical, emotional, or mental illness (Miller, 2000, p. 52). One of the key factors in the development of healthy emotions and an inner life is the ability to monitor one's feeling state (Miller, 2000, p. 50). Children who are in the company of adults who are attuned to the child's emotions are more likely to grow up to be healthy and successful citizens (Miller, 2000, p. 51).		
Another tool for enhancing intuition is metaphor. Metaphorical thinking involves making connections between two words or ideas that are not normally related but which share some commonalty (Miller, 2019, p. 104). In synectics, three analogies are important: direct analogy, personal analogy, and compressed conflict. Using analogy in synectic teaching allows the student to make a familiar stranger and a stranger familiar (Miller, 1983, p. 185). Metaphorical thinking involves making connections between two words or ideas that are not normally related but which share some commonalty. For example, the human kidney is like a fuel filter in that both screen out certain molecules (Miller, 2019, p. 104). In synectic teaching, we use the metaphor for growing students' creative skills. Because its reliance on processes in the right hemisphere of the brain, synectics can be considered as a spiritual perspective (Miller, 1983, p. 185).	Metaphor, Intuition, Metaphoric thinking, Analogy, Synectics, Certain processes in right hemisphere	Metaphorical teaching
Our education system too has little respect for silence. In silence, we can learn to listen to voices of the earth. We can also begin to hear other people at a much deeper level (Miller, 2000, p. 136). We are overwhelmed by the spoken and written word, yet much change occurs silently within the soul of the person and the soul of the institution. However, our lack of sensitivity to the nonverbal means that we often overlook elements that contribute to successful change within an institution. The problem with words is that they can never totally convey the meaning of direct experience .Again the spaces between what we say allow our words to have meaning. If we crowd these spaces, our speech tends to lose its impact. It is often in the silent spaces that the soul can see what needs to be done	Listening, Non-verbal means, Silent spaces	Silence

(Miller, 2000, pp. 48-49).		
One example of using visualization in science is to have students imagine magnetic fields around a transformer. The students can see themselves as electrons in the wire of the coil and experience the movement generated by the rapidly changing force field. Then the students can visualize themselves as electrons moving faster and faster as the two fields surrounding the coils interact and come closer. Another example of visualization in science is to have students imagine themselves as white blood cells moving through the circulatory system in the human body. First, they visualize the blood being re-circulated through the heart. The students can also imagine the white cells and their role in the immune system in fighting disease (Miller, 2019, pp. 100-101).	Visualization, Imagination, Experience	Visualization
It is helpful to have a place where we can write down our deepest feelings and longings. For example, we can write about our love and feelings for others here. We can record moments when we felt the ego drop away and the soul was exposed (Miller, 2000, p. 135). Autobiography, then, can provide a silent bond between teacher and student. Clearly, such work must be handled with sensitivity and care by the teacher (Miller, 2000, p. 73). Marion Woodman writes: "Another way I nurture my soul is by keeping a daily journal. My journal is my soul book. It is my dialogue with God. Since the age of twelve, I have searched for my essence, and I have recorded my terrors, my hopes, my delights in my journal. In doing this I have affirmed my own feelings and my own values. I have sought to discover my unique purpose. In this way, I have tried to live my own truth, which often ran counter to the culture" (Miller, 2000, p. 135)	Deep senses, Hopes, Terrors, Delights, Values, Purposes, Personal realities	Writing a daily journal
Select a piece of music that evokes strong images for you. Play it for the class (after a relaxation exercise and suitable introduction) and ask them to let the music suggest images, moods, feelings, and sensations to them. Tell them to be receptive to whatever comes to them as the music plays. Afterward, ask them to talk or write about the experience in either prose or poetry (Miller, 2019, p. 102). One of the most popular ways of using visualization is to take the students on a journey of some kind and then have them write a story about their journey (Miller, 2000, p. 57).	Strong images, Moods, Feelings, Sensations, Reception, Transcendence, Talking or writing about the experiences in either prose, poetry, story, etc.	Creative writing
Dreams ceased to be valuable guides for self-direction The language of dreams is highly symbolic. These symbols may come from our personal consciousness or from the collective unconscious. Working with these symbols provides greater insights and meanings. Dreams are a powerful tool for greater self-direction and self-awareness (Miller, 2000, pp. 65-66). I have a dream that one day it will be universally acceptable for students of all ages to study their dreams. This work will be considered both valuable and meaningful in directing each student` towards their greatest potential. Dream work will find a place in language arts, secondary English, art, drama, music and religious studies. I look forward to a day when dreams	Dream, Self-direction, Self-awareness, Symbolic language, Holistic education, Access to self, Messages from the self, Dream-based reality,	Dreamwork

will be considered an important method of holistic education, one that nourishes the mental, physical and spiritual needs of each student. I envision a time when dream work and meditation in education will not be considered unique, mystical or mysterious (Miller, 2000, p. 64). According to Jung, dreams can allow us to access the Self. Images that come forth in dreams can indicate messages from the Self (Miller, 2000, p. 66). The difference between the da Vincis of this world and others is that they can pluck a thought or an idea that comes to them in the still of night, in a dream and create from it reality. To them the true world is their inner world. Above all, they are good listeners, not only to other people but [to] that small, quiet voice within (Miller, 2000, p. 67).	Inner life and quiet voice within	

Based on the items on Table 3, the techniques of a soulful curriculum from Miller's viewpoint can be depicted as Figure 3.

Considering the items in Table 3, it can be inferred that the four processes of intuition, contemplation, transcendentalism and presence are used in the seven techniques of the soulful curriculum. These four processes can be regarded as contextual processes of a soulful curriculum. In addition, Miller conceives the soul as the core component and considers true instructing and learning as a concentration on a person as a whole by focusing on his/her soul. The relationship among contextual processes of a soulful curriculum can be depicted as Figure 4.

Figure 3. Seven Techniques of a Soulful Curriculum in Miller's Opinion

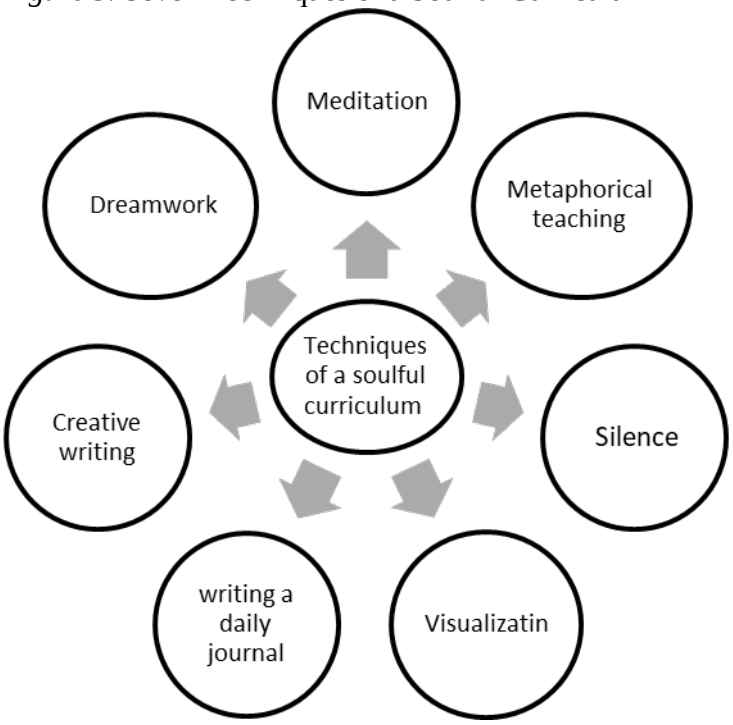
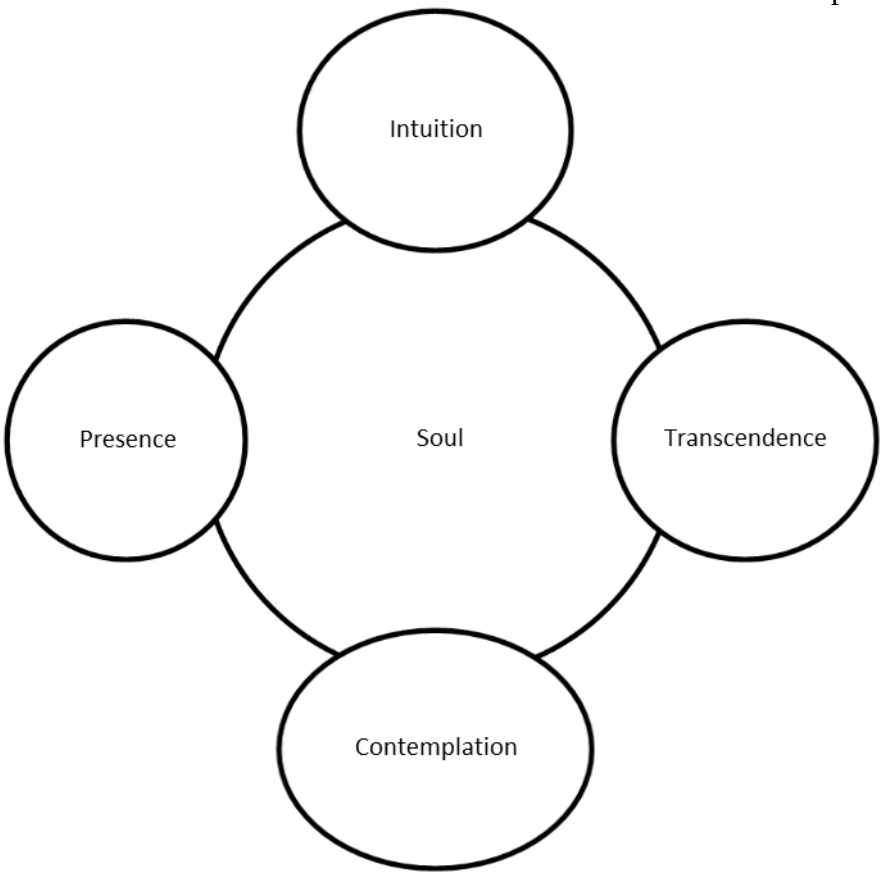


Figure 4. Contextual Processes of the Soulful Curriculum in Miller's Opinion



Essential Components of Miller's Soulful Curriculum Theory

After explaining the main elements embedded in Miller's thoughts on necessities, the principles and techniques of the soulful curriculum in Tables 1-3 and Figure 4, a comprehensive and integrative view has been described in this section in order to extract essential components of the soulful curriculum. Considering Miller's main works and what was mentioned above, it can be said that Miller conceives the soul as the main part of human existence. Therefore, it is necessary to regard human soul and his/her main features as the essential component of the soulful curriculum. Figure 5 depicts the main features of the soul and their relations.

Figure 5. Main Features of the Soul and their Relations

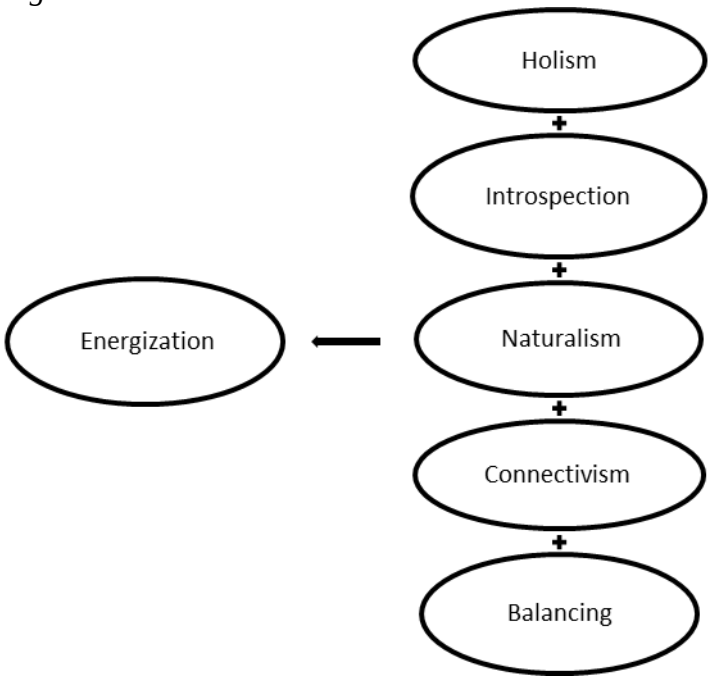


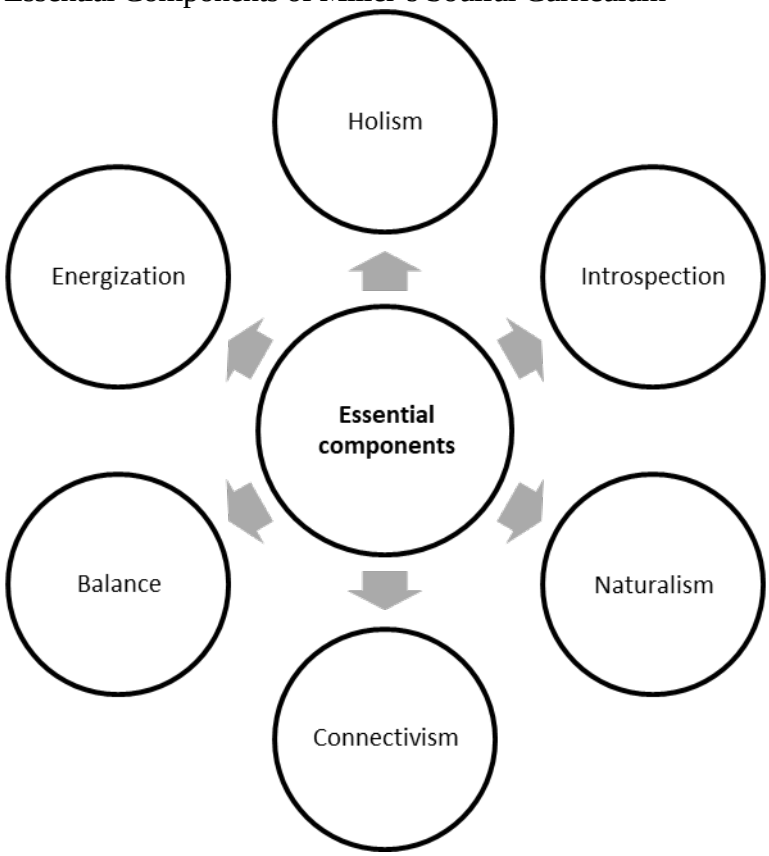
Figure 5 shows that energization is the result of full consideration of these five features of the soul (holism, introspection, naturalism, connectivism and balancing). As a result, essential components of Miller's soulful curriculum can be explained in the six axes summarized in Table 4 and depicted in Figure 6.

Table 4. Main Concepts and Essential Components of the Soulful Curriculum

Essentials	Basic principles	Main techniques	Primary concepts	Essential components
- Considering the soul as the main component of human - Avoiding fragmentation and standardization - Making a purposeful and meaningful life	- Considering the whole aspects of a human by educational system .	- Meditation -Metaphorical teaching - Silence - Visualization - Writing a daily journal - Creative writing - Dreamwork	- Concentration on a person as a whole - Reception, - Transcendentalism - Deep vision - Certain processes in right hemisphere - Meaning - Purpose - Identity	Holism
Decreasing students' pressures	-	- Meditation -Metaphorical teaching - Silence - Visualization - writing a daily journal - Creative writing - Dreamwork	- Emotions and senses - Social and mental pressures - Inner life - Deep vision - Inner self - Self-awareness - Deep insight - Certain purposes	Introspection

			- Personal messages - Non-verbal actions - Hopes - Horrors - Dreams - Presence at the movement	
-	- Educational process with full relationship with the nature and surrounding world - Regarding dualism and different entities in the nature by educational system	- Meditation - Metaphorical teaching - Silence - Visualization - writing a daily journal - Creative writing - Dreamwork	- Integration - Connection - Natural elements	Naturalism
-	- Educational process with full relationship with the nature and surrounding world	- Meditation - Metaphorical teaching - Silence - Visualization - writing a daily journal - Creative writing - Dreamwork	- Connection - Balancing - Integration - Unification	Connectivism
-	Regarding dualism and different entities in the nature by educational system	- Meditation - Metaphorical teaching - Silence - Visualization - writing a daily journal - Creative writing - Dreamwork	Integrating and balancing dualism	Balancing
-Considering vitality and nourishment in educational systems	-	- Meditation - Metaphorical teaching - Silence - Visualization - writing a daily journal - Creative writing - Dreamwork	- Vitality - Energizing - Nourishment	Energization

Figure 6. Essential Components of Miller's Soulful Curriculum



Conclusions

The current view of standard curricula toward the human being is mechanistic and partial. It results in branching and partitioning curricula, focusing on objective tests, standardizing knowledge, and isolating students from nature (Miller, 2010; 2019). In such circumstances, Miller believes that regarding vitality and nourishment, decreasing imposed pressures on students, regarding the most necessary and essential element of human existence i.e., "the soul", avoiding fragmentation, and making a purposeful and meaningful life are the necessities of the soulful curriculum (Table 1).

Heavily competitive space among students (Karamati, 2001), increased school dropout and school escape rates and violent behaviors in schools (Akbari, 2002; Tavvabi-Nejad, 2006), disappointment in teacher-student relationships (Levering, 2010), and students' hate of school (Samkan & Sattari, 2014) necessitate the need for providing a soulful and joyful curriculum, without any tensions and pressures in the educational systems. A soulful curriculum makes opportunities for creativity, vitality, discovering the meaning and destination of life for all students, in the sphere without any tension and competition (Nutall, 2006).

Miller dedicates three essential principles for the soulful curriculum related to the human souls' features: balance, connection and holism. The soul searches for

the balance of human existence, connection of inner and outer aspects of human existence and focus on the totality of human existence. Therefore, three essential principles of the soulful curriculum are: 1) Education must have an entire relationship and connection with nature and the surrounding world; 2) Education must regard dualism and contending entities in nature; and 3) Education must consider the whole aspects of human existence (Table 2). Some techniques needed to facilitate the implementation of the principles of the soulful curriculum in practice. Miller lists these techniques like meditation, metaphorical teaching, silence, visualization, writing a daily journal, creative writing, and dreamwork (Table 3). By reflection on the data shown in Tables 3 and 4, it can be inferred four processes of intuition, introspection, transcendentalism, and presence are applicable in the all of techniques belonging to the soulful curriculum, and these processes are considered as contextual processes of this curriculum (Figure 4). Intuition tends to rest on similarities between phenomena rather than their differences. While thinking is relied upon the left hemisphere of the brain as dominant, the focus is on the differences and distinguishing certain events. While the institution is dominant, the tendency is toward viewing things as the parts of a whole (Miller, 1983).

Transcendentalism is a result of openness to being and appears in one's deep relation with inner self and the cosmos; it necessitates being open to spirituality and accepting it in life.

Introspection is also the highest state of soulful and rational life. Introspection is a state of life full of awareness, energy, and consciousnesses, which is called vitality. Introspection is a kind of soulful wonderment; it is some consciousness of the sacredness that existed in life and human existence; a sort of appreciation for life, consciousness and existence; as well as, introspection presents a clear comprehension of the truth of life and invisible being surrounding us (Miller, 1994). Another process in the ensouling curriculum is the process of presence. According to Miller, presence is all curriculum's role-players' (teacher, principal, and parents) awareness and sensitiveness in behaviors and educational practices (even being aware of timely usage of non-verbal exchanges such as smile and silence) (Miller, 2000; 2011). Presence is the souls' return to manners of daily life and awareness of being present in life; meanwhile, living with presence, we will be placed in space and time conditions, and we will be aware and awake (Miller, 2000).

In most of his works, Miller considers the soul as the most crucial dimension of human existence (Figure 4) and emphasizes its main features and education based upon them (Table 4). In other words, Miller's essential elements of a soulful curriculum are extracted from the soul's features (Figure 5) and include holism, introspection, naturalism, connectivism, balancing, and energization (Figure 6).

With due attention to each of the essential components of the soulful curriculum from Miller's viewpoint, the following suggestions help make a soulful curriculum in the educational system:

- Holism: Regarding all students' existential aspects, talents, and exclusive abilities during designing, implementation, and evaluation of curriculum.

- Introspection: Special attention by teachers about each of students' affections, inner feelings, and inner life in school and classroom.
- Naturalism: Designing and implementing curricula according to nature and the cosmos.
- Connectivism: Considering various connection networks in designing, implementing, and evaluating the curriculum (such as those of students-society and real-life, students-teachers, relationship, and integration curricular subject matters, the relation between inner features of the human being (relation between thoughts and affective aspects, etc.).
- Balancing: Special consideration of the balance between dualities within human existence (such as intuitive and analytical thoughts), or in the outer life of the human being (such as individual and social affairs or gender-related behaviors) in designing the curriculum for different educational levels.
- Energization: Focusing on nourishment and joyfulness in curricula and attempting to increase students' interest in the school environment and curricula.

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Preschool Teacher Candidates' Ability to Design STEM-Focused Activities and Attitudes towards STEM

By Neslihan Ültay[*]

This study aimed to determine preschool teacher candidates' ability to design Science, Technology, Engineering and Mathematics (STEM)-focused activities and their attitudes towards STEM. The research method of the study was determined as a case study. The study was carried out with 35 preschool teacher candidates in the 3rd grade of the Preschool Education program. In the study, it was seen that the preschool teacher candidates had prepared the STEM activities at the end of the 14-week STEM education given to them, and they were able to design a sufficient level of activity. In addition, it is seen that the 14-week training provided has a positive effect on their attitudes towards STEM. However, this period is not sufficient to develop attitudes. Therefore, it can be suggested to examine attitudes towards STEM in longer periods.

Keywords: ability to design STEM-focused activities, attitude towards STEM, preschool teacher candidates, STEM-focused activity, STEM education

Introduction

The emergence of Science, Technology, Engineering and Mathematics (STEM) education was born out of the necessity of raising individuals with interdisciplinary perspectives, scientific and technology literate and 21st century skills. STEM education, which first appeared in the US, later became popular in many countries' educational reform programs. Turkey also has paid attention to the STEM education, STEM is not added directly to the education system (because it would require very radical changes), and it begins to be carried out with STEM activities with teachers' efforts. Designing a product especially in preschool education is considered the best way to integrate STEM into education (Çil, 2019). However, according to some researchers, STEM is not a chain of activities, but a teaching-learning mentality (Reighard, Torres-Crespo, & Vogel, 2016).

When STEM first appeared, it was intended for primary and secondary school students, and the focus was on students of this age group. However, it was later realized that it is actually a learning approach that can be used for preschool children. Because the focus of STEM is the children's creativity, asking questions, researching, and creating solutions for a problem from daily life in cooperation. Since these features are the skills and abilities that preschool children naturally possess, STEM's preschool applicability has come to the agenda (Chesloff, 2013; Ültay & Ültay, 2020). Preschool children are curious about events around them like natural scientists, they have personality like researchers, they learn concretely,

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and have tendency to group work. These are some of the features required to conduct STEM-focused activities (Aldemir & Kermani, 2017).

The applicability of STEM education in preschool period has been highly criticized by some researchers. The reasons for this may be that preschool teachers have not received adequate training on this subject (Whitebook & Ryan, 2011), preschool education program is not suitable for implementing STEM and preschool children are not suitable for STEM education (Atiles, Jones, & Anderson, 2013). However, many learning activities performed in preschool education program overlap with STEM activities (Aldemir & Kermani, 2017). For example, designing and producing a bird house together to protect birds from cold weather is an activity that is naturally present in the programs of preschool children and is implemented in almost all countries, and this activity can be considered as an activity in accordance with STEM (Ültay & Ültay, 2020). In addition, preschool education of universities in Turkey, although there is no direct course related to STEM education in undergraduate programs, through some elective courses, this shortcoming is been trying to shut down. For example, the course "Modern approaches in preschool education" may be an elective course suitable for teaching STEM education as a content.

In this study, it was aimed to design exemplary STEM-focused activities by preschool teacher candidates at the end of STEM education. Although there are many researches on STEM education and there are a lot of sample activity books on the market, a road map that can be used to design STEM activity is not clear yet. However, based on some criteria/features that should be present in STEM activities, in some studies, these criteria are expressed as follows: (1) Starting the activity with a real life problem and presenting it to the students in an appropriate context (2) Bringing the activity into integration of two or more STEM disciplines (3) Making the activity student-centered (4) Adapting the activity suitable for the characteristics of project and problem based learning approaches (5) Configure group work in the activity (6) Redesign (7) Evaluating designs (Aydın-Günbatar, 2019; Ültay & Aktaş, 2020). Teacher candidates also made sure that these criteria were found in the STEM-focused activities they designed.

Studies on the application of STEM education to learning environments have shown that STEM causes a positive increase in students' attitudes towards science (e.g., Campbell, Speldewinde, Howitt & MacDonald, 2018; Chen, Huang, & Wu, 2021; Hackman, Zhang, & He, 2021; Karahan, Canbazoğlu Bilici, & Ünal, 2015; Yamak, Bulut, & Dündar, 2014). Interestingly, students developed positive attitudes toward STEM disciplines, ranging from positive to negative attitudes, engineering, science, technology, and mathematics (Tseng, Chang, Lou, & Chen, 2013). It will be a significant step forward for our country's education and economy to raise awareness about STEM by increasing interest in the disciplines that comprise STEM, to make people like STEM, and to foster a positive attitude toward STEM (Azgın, 2019, Hacıoğlu & Dönmez Usta, 2020). Because at this age, students develop scientific attitudes and scientific process skills, and these attitudes carry over from the university to their everyday lives (Uştu, 2019). Students are expected to maximize their theoretical, process-oriented, and practical competencies in the field of STEM until the end of the fourth and fifth grades, to

recognize professions related to STEM education, and to gain the ability to integrate them with other disciplines related to STEM education (Bybee and Fuchs, 2006; Bagiati, Yoon, Evangelou and Ngambeki, 2010). In addition, STEM education has positive effects on students' academic success, development of scientific process skills, and career choice for engineering (Kong & Huo, 2014; Cotabish, Dailey, Robinson, & Hunghes, 2013). From studies conducted on STEM education, for example, Çınar, Pırasa, Uzun, and Erenler (2016) investigated the effect of STEM education on interdisciplinary educational approaches of teacher candidates. As a result of the study, teacher candidates stated that STEM education would contribute to the individual and social development of students and they wanted to use interdisciplinary applications in their classrooms. Sümen and Çalışıcı (2016) conducted the environmental literacy course in accordance with STEM education and investigated the teacher candidates' thoughts and mind maps regarding STEM. As a result of the research, teacher candidates found the activities effective, easy, and fun. In addition, Hacıoğlu (2017) found that science teacher candidates' STEM-based activities could improve their scientific creativity and critical thinking skills. However, one point that should not be forgotten is the content knowledge of the teacher performing the activity about the discipline to which the design made in STEM activities belongs and the attitude towards that area (Bozkurt, 2014). Indeed, the lack of sufficient knowledge of teachers and lack of infrastructure in schools are best known difficulties about STEM (Herdem & Ünal, 2018; Ültay & Ültay, 2020).

When we look at the studies about the effect of STEM education on attitude in the literature, it is seen that there are many attitude scales developed for STEM education and many of them are translated into Turkish (e.g., Derin, Aydın & Kırkıç, 2017; Yıldırım & Selvi, 2015; Yılmaz, Yiğit Koyunkaya, Guler, & Guzey, 2017). However, it is noteworthy that the number of studies investigating the attitudes of prospective teachers towards STEM education is low. Hacıömeroğlu (2018) determined that the attitudes of teacher candidates towards STEM were positive in their study conducted with 401 teacher candidates. However, this study differs from other studies as it aims to determine the attitudes of preschool teacher candidates towards STEM after giving STEM education to preschool teacher candidates during an academic period. Based on this, it can be said that the aim of this study is to determine preschool teacher candidates' ability to design STEM-focused activities by considering the characteristics that should be present in a STEM activity mentioned above and their attitudes towards STEM.

Methodology

The study has been identified as a case study since it allows for an in-depth study of a class. Case studies may involve many people or communities and require data collection over a long period of time (Creswell, 2003). This study is a case study since it covers an academic period and requires in-depth information collection.

Sample

The study was carried out with 35 preschool teacher candidates enrolled in the 3rd grade of the Preschool Education program of a university in the Eastern Black Sea Region in the spring term of the 2018-2019 academic year. 30 of the teacher candidates were women and 5 of them were men and their age ranges were 20-32. All ethical responsibilities were considered and informed consents were taken from sample. The study was conducted within the scope of the elective course of "Modern approaches in preschool education," 3 hours a week for a total of 14 weeks. The preschool teacher candidates were divided into 10 groups and designed the STEM-focused activities as a group. The groups were named as G1, G2, …., G10. The groups were formed as the teacher candidates wanted, so G6 consisted of two people, G1, G5 and G10 were consisted of three people, and G2, G3, G4, G7, G8 and G9 were consisted of four people.

Data Collection Tools and Data Analysis

STEM-focused activities developed by preschool teacher candidates were evaluated in the research, and at the beginning and end of the academic term to determine their attitudes towards STEM "the STEM Education Attitude Scale" was implemented. The attitude scale which was originally developed by Berlin and White (2010) was adapted to Turkish by Derin, Aydın, and Kırkıç (2017).

STEM activities developed by preschool teacher candidates were examined within the framework of the criteria set by Aydın-Günbatar (2019) and scored with a scoring scale developed in accordance with these criteria. Accordingly, the total score of teacher candidates of STEM-focused activities was evaluated as their ability to design STEM activities. Scoring scale is shown in Table 1.

The attitude scale implemented to determine preschool teacher candidates' attitudes towards STEM is a time-saving scale as the difference in the meanings of the words requires very well organized. In this sense, there are 33 expressions and their opposite expressions on the scale, and teacher candidates were asked to make close markings to whichever of these expressions they feel close to. For example, among the expressions "useful… ..,… ..,… ..,… ..,… .., harmful" teacher candidates marked which one they feel close to for STEM. Accordingly, 5 represents the highest attitude and 1 represents the lowest attitude. Since some expressions were given negative in the scale, the scoring scale specified by Derin, Aydın, and Kırkıç (2017), who made the Turkish version of the scale, was used. The average score obtained from the scoring scale was interpreted according to the Kaptan's (1998) chart (Table 2), assuming that it represents the attitudes of teacher candidates towards STEM.

Table 1. Scoring Scale Used to Evaluate STEM-Focused Activities Designed by Preschool Teacher Candidates

Criteria	**Sufficient (3 points)**	**Partially sufficient (2 points)**	**Should be developed (1 point)**
Starting the activity with a real-life problem and presenting it to students in an appropriate context	The activity is started with a real life problem and presented to students in an appropriate context.	The activity is partially started with the real life problem and presented to students in an appropriate context.	The activity is not started with a real life problem and was not presented to students in an appropriate context.
Bringing the activity into integration of two or more STEM disciplines	The activity involves the integration of two or more STEM disciplines.	The activity partially involves the integration of two or more STEM disciplines.	The activity does not include the integration of two or more STEM disciplines.
Making the activity student-centered	The activity is student-centered.	The activity is partially student-centered.	The activity is not student-centered.
Adapting the activity suitable for the characteristics of project and problem based learning approaches	The activity has been adapted suitable for the characteristics of project and problem-based learning approaches.	The activity has been partially adapted suitable for the characteristics of project and problem-based learning approaches.	The activity has not been adapted suitable for the characteristics of project and problem-based learning approaches.
Configuring group work in the activity	The activities are prepared in accordance with the group work.	The activities are partially prepared in accordance with the group work.	The activities are not prepared in accordance with the group work.
Redesign	The activities have been prepared to allow students to redesign.	The activities have been prepared to partially allow students to redesign.	The activities have not been prepared to allow students to redesign.
Evaluating designs	An evaluation rubric is prepared to evaluate designs.	An evaluation rubric is partially prepared to evaluate designs.	An evaluation rubric is not prepared to evaluate designs.

Table 2. The Mean Scores of Scale Points according to Kaptan (1998)

Score ranges	**Meanings of score**
1.00-1.80	Never
1.81-2.60	Rarely
2.61-3.40	Sometimes
3.41-4.20	Often
4.21-5.00	Always

Reliability and Validity

Within the scope of the research, the most important point about content validity is whether there is an area that cannot be evaluated with the scoring scale prepared (Ültay, Ültay, & Dönmez Usta, 2018). In this sense, the scoring scale was examined by a science education specialist and necessary arrangements were made. In addition, according to the opinion of the expert, the scoring scale contains all the important points that should be present in an STEM event. For the

reliability of the scoring scale, whether the categories are adequately explained or not (Tuncel, 2011), necessary arrangements were made in line with the expert opinion.

Derin, Aydın, and Kırkıç (2017) applied the attitude scale to 300 teacher candidates for the validity and reliability analysis of the scale and the reliability coefficient (Cronbach alpha) was found 0.77 for the entire scale. Accordingly, the attitude scale of Derin, Aydın, and Kırkıç (2017) was characterized as reliable and suitable for Turkey sample. The reliability coefficient calculated for this study was calculated as 0.74.

Results

In the research, the activities prepared by preschool teacher candidates in order to determine their ability to design activities for STEM were evaluated with the help of the scoring scale and the findings were presented in Table 3.

Table 3. Evaluation of Teacher Candidates' STEM-Focused Activities

Criteria	**Sufficient (3 points)**	***f***	**Partially sufficient (2 points)**	***f***	**Should be developed (1 point)**	***f***
Starting the activity with a real-life problem and presenting it to students in an appropriate context	G5, G7, G8, G9, G10	5	G1, G2, G3, G4, G6	5		
Bringing the activity into integration of two or more STEM disciplines	G2, G4, G6, G7, G8, G9	6	G1, G3, G5, G10	4		
Making the activity student-centered	G1, G2, G3, G4, G5, G6, G7, G8, G9, G10	10				
Adapting the activity suitable for the characteristics of project and problem based learning approaches	G1, G2, G3, G4, G5, G6, G7, G8, G9, G10	10				
Configuring group work in the activity	G1, G2, G3, G4, G5, G6, G7, G8, G9, G10	10				
Redesign	G1, G2, G3, G7, G9, G10	6	G4, G5, G6, G8	4		
Evaluating designs	G2	1	G1, G3, G6, G7, G8, G9, G10	7	G4, G5	2

According to Table 3, STEM-focused activities designed by preschool teacher candidates were planned to be conducted in a student-centered manner and also seemed appropriate for group work. However, the criteria prepared by preschool teacher candidates were not sufficient especially in the evaluation of designs. The attitude points that teacher candidates have developed against STEM are given in Table 4.

Table 4. Preschool Teacher Candidates' Attitude Points towards STEM

	Average	**Minimum**	**Maximum**	**Range**	**Maximum/Minimum**	**Variance**
Item average (pre test)	2.549	2.000	4.000	2.000	2.000	0.400
Item average (post test)	3.959	3.000	4.765	1.765	1.588	0.319

According to Table 4, the preschool teacher candidates' attitude score averages for pre test were 2.5 which meant 'rarely' and for the post test 3.9 which meant 'often' in Kaptan's chart. It is also noteworthy that the marked minimum value is 3.

Investigation of STEM-focused activities of the groups

1. Group. The preschool teacher candidates planned to start the lesson by watching a duck-themed animation that could not swim for the students. It was planned to ask the question of how we can have helped him to pass a duck that cannot swim with the animation across the lake. Thus, it was thought that a real life problem was presented to the students. After this stage, students tried to decide what product to design by generating ideas to help the duck. After reaching a group decision, students who were released free on choosing material began to design their products by taking their materials. Students who had the opportunity to try the product they had designed in a basin brought to class, redesigned their products if their designs had an inoperative point (such as sinking in water or deterioration of the carton when it is wet). The designs of the groups were evaluated as a result of the criteria determined by the teacher and the best design of the class was selected. Students' designing a product such as boats was associated with engineering, swimming or sinking of the boat they designed was associated with science.

2. Group. The STEM-focused activity planned by the preschool teacher candidates started with a slingshot in the hands of the teacher. First of all, the teacher explained what the sling did and how it was used, and then told a story. In this story, there were two kids playing with a slingshot, and one's sling brought while playing. The teacher presented the real life problem by asking how we can have helped the friend whose sling was broken. After that, the students decided to design a slingshot for this friend and started by choosing materials for their designs. After the students completed their designs, they experimented with putting stones or balls. If there were points that did not work in their designs (such as not being able to launch or reaching the desired distance), students were given

the opportunity to redesign. Then, the best design was chosen according to the criteria determined by the teacher. Designing catapult, or etc. was considered as a relation to engineering discipline, the ability of the catapult they designed to balance, and the flexibility of the launcher can have been related to science discipline, and the estimation of the distance of the bottles to be hit with the designed catapult was considered as a relation to mathematics discipline.

3. Group. The STEM-focused activity planned by the preschool teacher candidates started with a cartoon. There was a cat in the tree in this cartoon and this cat cannot have got off the tree. The question of what tool we should have designed to help this cat was a real-life problem. Within the framework of this problem, students decided what kind of tool they would have designed and moved on to material selection. After designing their products, students discussed about the robustness and suitability of the products, and those with incomplete designs began to redesign. When the redesign process was finished, the designs were evaluated within the criteria determined by the teacher. Designing a product such as stairs etc. by students to save the cat from the tree was associated with engineering discipline, measuring whether the length of the tools made was sufficient for the length of the tree was associated with the field of mathematics.

4. Group. The STEM-focused activity planned by the preschool teacher candidates started with a story. This story talked about a group of children being together to fly a kite. A child without a kite joined the story later, and the story continued with that his friends decided to make a kite for the child without a kite. In this way, the real-life problem was passed on to the students, and the students decided to design a kite to help this child and determined their designs in a group. Then they chose the materials they wanted and revealed their designs. The teacher asked how we can have made these designs more robust and asked the students to rethink and correct the missing points. When this stage was over, the kites were evaluated in terms of predetermined criteria. The students' designing a kite was related to the field of engineering, the length of the rope used and the number and length of the materials used to ensure the air circulation (pipe, wooden rod, etc.) were related to the mathematics, and making experiments and observations made on whether it will fly in windy weather were associated with science.

5. Group. The STEM-focused activity planned by the preschool teacher candidates started with the teacher asking students to collect pet bottles for recycling. After the students had accumulated empty pet bottles for about a month, they brought them to the class. After watching an animation about recycling, the teacher asked what we can have done with these empty pet bottles and asked students to design a product that we can have used in daily life using empty pet bottles. Students who planned their designs by the group started their designs after getting the necessary materials. The teacher helped the students in the guide position. After talking about the usefulness and quality of the products made, the designs were evaluated. The students' designing products from pet bottles was associated with engineering, while the number of objects used and the geometric shapes of the products formed were associated with the field of mathematics.

6. Group. The STEM-focused activity planned by the preschool teacher candidates started with the story of a sparrow that had lost its home in the winter

months. The teacher asked the students how we can have built a nest to help this sparrow, and the students decided their designs in groups. Then they started creating their designs by choosing their materials. When the designs were finished, their durability was checked by the teacher and the non-durable designs were redesigned by the students. At the last stage, these designs were evaluated with the criteria created by the teacher. Students' designing nests for birds was related to the field of engineering, the materials they used for designing, and the cameras placed inside the nests were related to the field of technology, the number of objects used and the correlation of the designs of the nests with geometric shapes were related to the mathematics.

7. Group. The STEM-focused activity planned by the preschool teacher candidates started with a question asked by the teacher from daily life. The teacher asked the students how to clean small crumbs spilled at home and then asked our class how to clean them if these crumbs were spilled. Thus, it directed the students to the question of what kind of product we should have designed to remove small crumbs. After students discussed in groups and decided their designs, they started their designs by choosing the appropriate materials for their designs. The teacher assisted the groups who wanted to use the engine in their designs during the installation of the engine. After the designs were finished, they were tested whether they pulled small papers to test the designs and if there was a point that did not work in the design, it was corrected. Designs were evaluated through the criteria that the teacher had previously determined. Students' designing a product such as vacuum cleaner etc. had been associated with engineering, and engine placement in the product they had designed had been associated with technology, the relation between pulling power of the engine and the length of the hose was associated with mathematics.

8. Group. The STEM-focused activity planned by the preschool teacher candidates started with the teacher's conversation about homeless cats on the street. Along with the question of how we can have helped street cats, the question of how we can have designed a home for them had been raised. After that, students decided on the nest they would have designed in groups and chose the necessary materials to get to work. After the designs were finished, they were checked by the teacher and asked students to redesign the nests that were not shockproof or cold protected. Designs were last evaluated by the teacher. Students' designs such as wooden hut etc. were associated with engineering, the construction of the hut equipped for heat loss was associated with science, camera, or electronic thermometer technology used by students were associated with technology, and the number and the geometric shapes of the objects they used were associated with mathematics.

9. Group. The STEM-focused activity planned by the teacher candidates started with a student's curiosity about stars and planets. Then the teacher hung mockups of celestial objects such as stars and planets in the class. The teacher asked how we can have seen the stars more closely, and after the students' answers, it presented the real-life problem that students had prepared as a tool to see more closely the celestial objects. After that, the activity continued with the students designing telescopes and similar tools. The designed vehicles were tested

by looking at the stars on the ceiling of the class, and groups with problems in their design were given the chance to redesign. Finally, the designs were evaluated by the criteria determined by the teacher. Students' designing telescope etc. was related to the field of engineering, the examination of celestial bodies was related to science, and the calculation of the distance to keep the telescope in balance was related to mathematics.

10. Group. The STEM-focused activity planned by the teacher candidates started with a few students who came to class late and they explained their teachers why they came late. For the students who told that the bridge that the students had to use when they came to school was shaking too much and did not look very strong, the teacher turned to the class and revealed the real life problem by saying "how can you have helped your friends?" Students were divided into groups and tried to find solutions to this problem situation. After the students planned and made their designs, the robustness of the designs was tested with a hair dryer. Designs that were determined to be not robust were rearranged. Finally, the designs were evaluated by the criteria determined by the teacher. Students' designs such as bridge etc. were associated with engineering, and the balancing the bridge was related to science.

Discussion

In the research, it was determined the skills of preschool teacher candidates to design STEM-focused activities, and at the end of 14 weeks STEM education, the attitudes of teacher candidates towards STEM were tried to be determined. At the end of the research, it was seen that the STEM-focused activities designed by teacher candidates were generally collected in partially sufficient and sufficient categories and the scores they got as a result of this categorization were at a good level. However, when STEM-focused activities designed by preschool teacher candidates were examined in depth, the most important points that the activities were student-centered and required group work. This shows that in science education, the transition from a teacher-centered approach to a student-centered approach has been internalized in recent years. As it is known, the common point of all the programs (such as, Project 2061, AAAS Science, NGSS, Model-Based Analysis and Reasoning in Science) that have been developed in order to contribute to science education and to increase the number of science literate individuals in recent years (Ayas & Çepni, 2007; Ültay, 2017) have focused on student-centered learning. However, one of the most important points of the STEM education is that it is student-centered and enables group work (Kennedy & Odell, 2014). Guzey, Moore, and Harwell (2016) stated that the STEM activities should be student-centered while listing the important features that should be present in a STEM activity. It is also a known fact that group work and collaborative practices increase success and improve social emotions (Kovac, 1999; Sisovic & Bojovic, 2000).

When STEM-focused activities of preschool teacher candidates were examined, all activities started with a real life problem. Half of them (in the group

who are partially sufficient) started with a story, animation, or cartoon. Based on a problem situation mentioned in the story, animation, or cartoon, students were planned to be directed to design a product. STEM activities in the group, which is found to be sufficient, started with the students coming to the agenda of a daily problem and developing a solution proposal for that problem. For example, in the activity that G10 had planned, it started with the problem of a bridge that many students had to use when coming to school and they were late for the class for a while because of shaking the bridge. Students started to develop solutions to solve this problem and wanted to help their friends. One of the most important points of STEM activities is that it contains a real life problem (Aydın-Günbatar, 2019). According to Moore et al. (2014), one of the most important indicators determining the quality of a STEM activity is the existence of activities that are meaningful and interesting for students and require them to use their personal knowledge and experience. This is possible by creating partially or completely realistic and meaningful situations (Brophy, Klein, Portsmore, & Rogers, 2008; Carlson & Sullivan, 2004).

When the STEM activities designed by teacher candidates are considered which STEM areas they contained, it was seen that all of the groups were focused on at least two STEM areas. However, while five groups planned an activity proposal for covering three STEM areas, only one group (G8) planned an activity that included all of the STEM areas. However, it is sufficient that a STEM activity addresses at least two STEM fields (Kennedy & Odell, 2014). The common preferred STEM field in all groups was engineering. The reason for this may be that the best way to integrate STEM activities in preschool education is to develop a product or to produce a tool (Çil, 2019), because the best way for preschool children to learn information is to present the information by concrete. Also, Moore et al. (2014) state that the common point to be found in STEM activities is engineering design homework.

When the suitability of STEM-focused activities designed by preschool teacher candidates to the characteristics of project and problem-based learning approaches were examined, it was seen that all of the prepared activities contained a problem situation. From this point of view, it can be said that they were prepared in accordance with the problem-based learning approach. There must be a problem situation for the integration of science fields in STEM activities (Sanders, 2009). Problem-based learning is a learning approach that involves collaborative work with the most general point of view that requires the student to face in real life and have multiple solutions, to face the student with an interdisciplinary problem and to review the existing information to solve it (Savery, 2006). STEM-focused activities designed by preschool teacher candidates addressed these points. In project-based learning, learning activity is organized around projects. However, a question that will motivate students in project-based learning needs to be asked, and students form plans, determine the process, develop solution suggestions, and share the results with the class by creating groups (Selvi & Yıldırım, 2018). It can be said that the activities designed by teacher candidates were prepared in accordance with project-based learning, because it contained the points that should be included in project-based learning. In addition, it can be said that the

characteristics of STEM activities and project-based learning are largely similar (Selvi & Yıldırım, 2018).

When the STEM-focused activities designed by preschool teacher candidates were examined, it included the students' group work in accordance with the problem situation given, developing a solution proposal, turning it into a product, and then trying the product they designed. The majority of these trials had been carried out in accordance with the reality. In other words, for example G1 tried the product they designed to cross a non-floating duck in a basin full of water which was brought into the class. As a result, if the product they designed was submerged in water or deteriorated when it got into the water, they corrected the product they designed by questioning the reason. However, in the activity prepared by G4, the students who designed kites did not have the opportunity to make a real experiment. Only the teacher checked the kite and, if any, noted the missing points and told the students to redesign. However, in all activities, students were given the chance to redesign whether a real experience environment was presented or not. One of the important points of STEM activities is to give students a chance to redesign and to learn from failure (Moore et al., 2014; Wheeler, Whitworth & Gonczi, 2014).

It is seen that preschool teacher candidates had set criteria for evaluating the designs that students planned to do in STEM-focused activities. These criteria were determined in various dimensions such as easy availability of the material, harmless to health, and whether they were suitable for the purpose. Since the engineering design assignment at STEM activities can have more than one solution and also allows the design of different products in a variety of ways, these criteria must also be diverse. In this sense, the groups whose criteria were somewhat more limited are in "partially sufficient" and "should be developed" categories. The criteria can be given to students at the beginning of the activity or after the activity is over. Thus, students will see that there cannot be one correct design and that the best design depends on certain criteria (Aydın-Günbatar, 2019).

It can be said that preschool teacher candidates' attitudes towards STEM were very positive as a result of giving a 14-week STEM education to them. One of the most important bases in the emergence of STEM is that it develops a positive attitude towards the individual in STEM areas (Furner & Kumar, 2007). Guzey, Moore, Harwell, and Moreno (2016) stated that their STEM-based activities caused a positive change in students' attitudes. There are many studies in the literature having similar result (e.g., Alsup, 2015). However, it should be remembered that a long time is required for the change in attitude. As a matter of fact, Berlin and White (2010) stated that the attitudes of teacher candidates started to change positively only after three years in their studies on STEM integration with their teacher candidates. Al Salami, Makela, and Miranda (2017) reported that the 12-15 week education they provided to teachers did not cause a change in their attitudes towards STEM. Moreover, it is defended that if teachers have positive attitudes towards STEM, then they become good role models for developing positive attitudes of students towards STEM disciplines (Li, Forbes, & Yang, 2021; Wang, Choi, Benson, Eggleston, & Weber, 2020). According to

DeJarnette (2012), the majority of existing STEM education programs is for secondary and high school students, with fewer opportunities available to primary school students, preschool education students, classroom teachers, and preschool teachers.

Conclusions and Suggestions

As conclusion, it can be said that preschool teacher candidates could have designed STEM-focused activities in a manner of student-centered and including group works. It is also seen that STEM-focused activities included a real life problem. It was quite suitable for problem-based learning. Apart from this, all STEM-focused activities contained at least two STEM disciplines and engineering was the common discipline. Additionally, teacher candidates created evaluation criteria for STEM-focused activities. All in all, it can be said that preschool teacher candidates considered all the important points of STEM-focused activities. Furthermore, preschool teacher candidates developed positive attitudes towards STEM. By looking at the problem situations presented by teacher candidates, it can be suggested to prepare more realistic and problematic types that students can face in their daily lives. Preparing the criteria created to evaluate students' engineering design homework from a wider perspective can be suggested because it is important for them to be able to design more freely. In addition, it is seen that the 14-week training provided has a positive effect on their attitudes towards STEM. However, it should be taken into consideration that this period is not sufficient to develop attitudes. From this point of view, it can be suggested to examine attitudes towards STEM for longer periods. In the light of the importance of the research, the findings should be discussed with literature and author comments.

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Investigating the Effectiveness of Reflective Teaching Activities in Secondary English Classes[1]

By Mevlüt Aydoğmuş[*] & Ahmet Kurnaz[±]

The aim of this study is to investigate the effects of reflective thinking-based teaching activities on academic achievement, retention and attitude towards English course in secondary school English classes. The research was carried out with pre-test-post-test design with experimental-control groups. The study was carried out in a private secondary school for 8 weeks in Konya, in 2016-2017 academic year. The study included a total of 35 students in the fifth grade, which included 18 students in the experimental group and 17 in the control group. In the experimental group, reflective teaching activities were used and in the control group the activities on the teacher's guide book based on the current curriculum were used. There was a significant difference between the post-test and retention scores of the experimental and control groups. However, experimental teaching practices did not lead to a significant difference in students' attitudes towards the course. It was found that reflective teaching practices had an impact on students' success and retention in secondary school English lessons.

Keywords: English teaching as foreign language, reflective teaching, academic achievement, attitudes towards English, attitude scale for English lesson

Introduction

In today's world, knowing one or more foreign languages, has been inevitably become a need in various areas of life. Everywhere in the world, millions of people spend huge amounts of energy, money and time in order to learn a foreign language. In the light of the developments in the world, great effort and money are being spent both as the state and as an individual in the field of language teaching/ learning in our country. Despite this great effort to learn a foreign language, it is observed that the result obtained is far from being satisfactory and that the labour, energy and time are wasted (Ekinci, 2019).

With the changes in the experience and perception of language learning, similar developments have not emerged in the area of language teaching. In schools, direct teaching approaches based on content and grammar with traditional methods, are widely practiced. However, rather than teaching the rules of grammar directly with a traditional approach, environments should be provided for students to be able to communicate using the language they are learning and use it in their lives effectively. In addition, cognitive, affective and dynamic areas should be considered together in language teaching. For this reason, in foreign language

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courses, focusing on the use of language rather than the structure, communication-oriented and appropriate course design are important for the students to be more successful in the course (cognitive) and take pleasure from the course (affective) and to increase their participation in the course. In this context, an effective foreign language teaching will increase interests and attitudes of students towards English lessons, and this will also play an important role in the success in the course. The development of cognitive, affective and psychomotor characteristics in English courses with student-centred and reflective learning environments will be possible with a holistic approach. In order to ensure that students acquire the required level of English, teaching-learning processes are of vital importance. Reflective teaching can be considered as an effective approach in terms of allowing teachers and students to reflect foreign language skills on the basis of learning.

Duban and Yanpar Yelken (2010) reported that the concept of reflective thinking has various definitions in the literature. Some of these are in-depth thinking (Gündoğdu, 2009) and thinking meticulously (MEB, 2007). About a century ago, Dewey (1910, p. 6) defined reflective thinking as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends". According to Ünver (2007), reflective thinking is a process of detecting positive and negative situations related to method and level in teaching and learning. According to Semerci (2007), reflective thinking is a way of thinking, which acts as a bridge between theory and practice, where emotions support the mental processes of individuals, which can solve all kinds of problems with effectiveness, determination and concentration and where the results can be shared as experience.

The concepts underlying reflective practice are much older. Examples of reflective teaching and practices can be found in ancient texts. In particular, the concept of reflective application was mentioned in the works of the Stoic philosopher Marcus Aurelius (Bolton, 2010; Schön, 1983). However, the scientist who systematically dealt with this concept was John Dewey at the beginning of the 20th century. Dewey introduced the first systematic contents about reflective practices with his discoveries of experience, interaction and reflection. Soon, learning psychologists such as Kurt Lewin, Vygotsky, Jean Piaget and Shön included the concept of 'reflective' in their approach to human learning and development (Kolb & Kolb, 2005; Schön, 1983). At the centre of reflective teaching was an increasing interest in the integration of theory and practice and the conscious application of what has been learned from experience. Since the 1970s, there is a growing literature focusing on experiential learning and the development and application of reflective practice (Dyment & O'Connell, 2014; Hébert, 2015; Kurnaz, 2007).

As mentioned above, according to Dewey (1910), reflective thinking is an active, persistent and careful thinking of a form of knowledge that supports any belief or knowledge and the achievement of the intended results. Reflective thinking activities enable students to define their own goals, be responsible for their own learning and see and correct their own mistakes (Ünver, 2003). Reflective thinking gives the students the opportunity to develop strategies for thinking such as questioning the assumptions, asking questions, summarizing, selecting charts, making comparisons, etc. (Çubukçu, 2011).

Schaub-de Jong (2012) summarizes the reflective learning outcomes from different studies as follows: (1) Reflective learning is expected to enable students to have an in-depth understanding of experiences and a stronger capacity for using knowledge in new situations. (2) Reflective learning is expected to allow students to direct and monitor their own learning processes. (3) Reflective learning is expected to lead students to awareness of emotions or thoughts, which can encourage students to think in new ways and help them develop alternative explanations for experiences. (4) The learning outcomes of reflective learning are expected to help students develop self-awareness; participation in reflective learning is expected to show how a person is aware of their beliefs and how they differ from other people's beliefs.

When the research on reflective thinking is examined, it is seen that studies are mostly conducted on teacher dimension, the effect of reflective thinking on professional development of teachers (Altınok, 2002), the opinions and attitudes of teacher candidates and teachers towards reflective teaching (Duban &Yanpar Yenkel, 2010; Ekiz, 2003; Evans, 2009; Güney, 2008; Şahan, 2011; Tok, 2008), reflective teaching practices of teachers of different courses (Duban & Yanpar, 2010; Ekiz, 2003; Evans, 2009; Güney, 2008; Şahin, 2011; Tok, 2008), reflective thinking practices of school administrators (Dalgıç, 2011). From the theoretical perspective, studies mostly focused on reflective teaching, development of reflective thinking scales, among others. It has been observed that there is limited number of experimental studies (Baş & Beyhan, 2012) on English teaching based on reflective thinking on primary school students. It is thought that it is very important to determine the effectiveness of teaching by reflective thinking activities on primary school students. Determining the reflective thinking skills of primary school students, the effect of academic achievement, attitude towards the course and the effect on retention by developing activities based on reflective thinking is a problem.

With this study, it is of great importance to determine the success of the teaching practices in secondary school English lessons through reflective teaching activities, determine the level of retention, the students' opinions about reflective teaching activities and the strategies related to the subject. In this study teaching practices based on reflective thinking were planned and implemented according to the reflective teaching model developed by Sünbül (2010). It is expected that this study will contribute to literature on teaching English with reflective thinking activities and help teachers choose their applications within the renewed primary education program. In this context, the following questions were asked:

> Is there a significant difference in the academic achievement levels between the experimental group in which the reflective teaching activities are used in English lessons and the control group in which the activities in the teacher's guide book based on the current curriculum are used?
> Is there a significant difference between the experimental group in which reflective teaching activities are used in English lessons and the control group in which the activities of the teacher's guide book based on the current curriculum are applied regarding levels of academic retention?
> Is there a significant difference between the experimental group in which reflective teaching activities are used in English lessons and the control group in which the

activities of the teacher's guide book based on the current curriculum are applied regarding levels of attitudes of the students towards English lesson?

Methods

The study investigated the effects of the reflective teaching methods on students' English language achievement and attitudes towards language course in grade 5 (10-11-year-old students) in secondary school, and used experimental method with pretest-posttest control group design. Within the scope of this study, in the experimental group, the grade 5 reflective teaching program of English course and in the control group, the current grade 5 English curriculum were used.

Prior to the research, grade 5 English course achievement test and the attitude scale for English course were given to the experimental and control groups as pre-test. The same measurement tools were used as post-test for both groups. 6 weeks after the post-test, English achievement test was administered as a retention test for both groups.

Research Group

The study was carried out in a private secondary school in Meram, Konya in 2016-2017 academic year. Factors such as the permission of the administrators of this school, the suitability of the research groups and the school environment, the equivalence of the education and the socio-economic status of parents, and the willingness of the teachers and administrators in the research were effective in selecting the groups in the research process. In order to determine the experimental and control groups of the study, general academic achievements of the students in all branches of the school in the previous academic year, the scores in English exams, the results of the test examinations in the school and the distribution of the classes according to gender variable were taken into consideration. In terms of all these variables, two grade 5 classes were chosen for the implementation of the quantitative methods of the study. These two classes were then assigned as experimental and control groups randomly. Below are the distributions of experimental and control groups according to gender, achievement and pre-test scores.

The experimental group which received reflective teaching consisted of 18 students. Of these students, 8 (44.4%) were female and 10 (55.6%) were male. The control group which received the regular curriculum program consisted of 17 students. Of these students, 8 were female (47%) and 9 (53%) were male. In general, experimental and control groups were balanced in terms of gender and the number of students.

Table 1. Comparison of Achievement Pre-Test Scores of Students in Experimental and Control Groups

	N	Mean Rank	Rank Sum	U	P
Experimental Group	18	19.86	357.50	-1.110	0.267
Control Group	17	16.03	272.50		

p<0.05.

In Table 1, the results of the Mann Whitney U test of the pre-test scores of the students in the control group who received the activities in the teacher's guide book based on the current curriculum and the students in the experimental group who received reflective learning activities are shown. The analysis shows that 1.110 Z value was calculated between the pre-test mean scores of the two groups. Thus, there is no significant difference between the pre-test scores of the experimental and control groups. The students in the experimental and control groups had an equal level of success in English language pre-test before the experimental procedures of the study.

Table 2. Comparison of Attitude Pre-Test Scores of Students in Experimental and Control Groups

	Groups	N	Mean Rank	Rank Sum	U	P
Attit Pre-test	Experimental	18	18.19	327.50	0.116	0.909
	Control	17	17.79	302.50		

p<0.05.

Table 2 shows the results of the analysis on attitude scores of the students in the experimental and control groups before the study. The results illustrate that Z value was calculated as 0.116 between the scores of the two groups. Thus, there is no significant difference between the attitude pre-test scores of the groups. It can be argued that at the beginning of the research, the attitudes of both groups towards English lesson have equal distribution.

Table 3. Grades in School Report Cards of the Students in Experimental and Control Groups

Group	N	Mean Rank	Rank Sum	U	p
Experimental	18	21.28	383	1.91	0.059
Control	17	14.53	247		

p<0.05.

In Table 3, the results of the Mann Whitney U Test, which was calculated on school report cards of the students in the experimental and control groups are displayed. According to the analysis, Z value was calculated as 1.91 between the scores of the two groups. The difference is not significant. It is obvious that the two groups are equivalent in terms of school report cards.

Table 4. Grades of English Course in the Previous Semester of Students in Experimental and Control Groups

Group	N	Mean Rank	Rank Sum	U	p
Experimental	18	22.03	296.5	1.68	0.125
Control	17	13.74	233.5		

$p<0.05$.

Table 4 shows the academic achievement of the English course in the previous semester of the students in the control group who received teaching based on regular program and the experimental group who received reflective teaching. Z value was calculated as 1.68 between the scores of the two groups. Thus, it is clear that there is no significant difference between the English levels of the students in both groups before the experimental procedures of the research.

Experimental Procedures

In the study, reflective teaching application steps planned by Sünbül (2010) were followed in the experimental group. In the control group, the current curriculum was applied. All the procedures in the study are given below;

(1) Daily plans and study sheets were prepared for use in research from grade 5 English course-books and source books.
(2) In order to familiarize the participants with their strategies, warm-up activities were done for 2 lesson hours (80 minutes) in the experimental group.
(3) The pre-test and attitude scale were administered to the students in experimental and control groups. In this stage, reflective teaching was carried out in the experimental group and the activities in the teacher's guide book based on the current curriculum were carried out in the control group.
(4) In the experimental group, reflective teaching activities are: Introduction Activities, Learning Contracts, Writing Learning Journals, Feedback-Correction, Reflective Journal, Building Concept Maps, Asking Questions, Participating in Reflective Discussions, Preparing Development File. These activities are organized as 8 weeks-8 sessions. In units 3 and 4 of the grade 5 English course book, reflective teaching practices are as follows.
    (4.1) Introduction Activities: The course started with visual stimuli, open-ended questions and interesting information to attract students' attention to reflective teaching process, subject and activities, to arouse and stimulate curiosity.
    (4.2) Learning Contract: learning is the participation of students in decisions regarding the learning process. Contracts were made with all classes or groups. Students have conducted applications such as signing contracts for taking responsibility for their own learning. In this phase, individual and students in groups put their contracts into effect. At this stage, they worked at different

speeds, levels and tasks, focused on the common goals, and tried to develop independent learning and thinking skills.

(4.3) Writing Learning Journals: They wrote diaries in which students recorded their personal responses, questions, feelings, changing opinions, thoughts, learning processes and content.

(4.4) Feedback-Correction: The teacher guided and provided information to the students about the level of activities and the level they reached.

(4.5) Reflective Journal: Through reflective journals, students reflected their own learning processes by establishing a higher level of relationship between theory and practice.

(4.6) Creating Concept Maps: At this stage, students tried to establish links between the concepts covered in the course. At this stage, the teacher guided, and the visuals and the concepts were created by the students. Relations and repetition of subjects and concepts were made through these maps.

(4.7) Asking Questions: During the reflective teaching activities, students tried to answer the following questions individually or in groups. At this stage, the students were provided with written questions and answers.

(4.8) "What do I know about this?" "What do I need to learn?" "How long will it take me to find out?" "What resources do I use?" "What should I do next?" "Did I get all the information I needed?" "Do I understand what I'm doing?" "Did I reach my goals?" "What methods did I use?" "What did I learn?"

(4.9) Participation in Reflective Discussions: Reflective discussions were made to ensure that students see similarities and differences in their practice. In these discussions, students were encouraged to make constructive peer assessment, to make peer correction, and to reinforce their learnings.

(4.10) Learning Contract-2: At this stage, the activities in learning contract-1 were repeated.

(4.11) Preparing Development File: This step was made as another writing-based activity. In this process created by the student, the students were asked to choose and review their studies, reflect on the projects they completed and review their old products.

(4.12) Self-assessment: At this stage, students were encouraged to self-assess and reflect on reflective thinking. This phase was encouraged to provide a critical perspective on student learning.

(5) In the control group, the current curriculum provided by MoNE for grade 5 students was used. Both the experimental and control group had to cover the same subjects and gains in the same amount of time.

(6) As post-test for all groups, English achievement test and the attitude scale for English course scale were applied.

(7) 6 weeks after the application of the post-test, English achievement was administered to both groups simultaneously as a retention test.

Data Collection Tools

The attitude scale towards English and grade 5 English achievement test were used as data collection tools. Information about the data collection tools is given below.

Attitude Scale towards English

Attitude scale towards Grade 5 English Course was used in the pre-test and post-test attitude assessments during the research process. The students in the experimental and control groups were asked about their English language, emotions, thoughts and behaviour in the scale developed by the researcher to measure their affective tendencies. In the process of developing the scale, a group of students at secondary school were asked to write an essay about what they thought about English lesson, what they felt in the lesson and what they did related to English in the school or outside the school. The texts written by the students were examined by three academicians who had PhD in the fields of education programs, assessment and English education, and they were transformed into attitude statements. The frequencies of the sentences were rank ordered from most repeated to least repeated. As a result of the consensus of academicians, "16 attitude items" consisting of positive and negative sentences were determined. Then, the sentences were examined by an academician from Turkish Language Education field for proofreading. The scale prepared in the Likert type was transformed into a 3-grade scale regarding age and grade levels of the students based on expert opinions. The scale included options as, "yes", "partly yes", and "no". The attitude scale towards English grade 5 was administered to 458 students in the same grade level. Exploratory factor analysis, item analysis and reliability analysis were performed on the data obtained. In order to test the validity of the scale, KMO and Bartlett tests were done initially. The results indicate that the KMO value of the English attitude scale was 0.90 and the Bartlett Test value was 1897.797 ($p<0.01$). These findings indicate that the scale was suitable for the grade 5 and the factor analysis. The Eigen value was calculated as 1 as a result of Component Factor Analysis. It shows that the scale has a one-dimensional factor structure. This single dimension explains about 58% of the variance the scale wants to measure. In this respect, one factor structure of the scale provides a very high validity measurement. Subsequently, item factor loadings were calculated on a single factor of the attitude scale towards English course. In this respect, 14 items with a factor load of 0.40 and above in the attitude scale towards English, were determined. The factor loads calculated for the items in this scale vary between 0.51 and 0.69. In addition, the analysis showed that Cronbach Alpha Reliability Coefficient of Attitude Scale towards English was found as .87. This shows that the scale has a high internal consistency and reliability.

Grade 5 English Course Achievement Test

Grade 5 English Course Achievement Test was used in the pre-test, post-test

and retention test. In the process of development of this test, Grade 5 English Lesson Plan and Annual Plan with units were examined. At this stage, the opinions of experts from teachers from the field, researchers from education program development and assessment were used. Questions were selected from the units "3. Hello, Countries and Languages" and "4. Games and Hobbies" as these units were covered during the study. According to Grade 5 English language curriculum in the annual plan, Unit 3 and 4 had 10 learning objectives. 4 questions were asked to represent each objective. Thus, a four-choice test with 40 questions was created for English lessons in grade 5. At this stage, experts from educational assessment were consulted in terms of wording and spelling in questions and options. The test was administered to a group of students in grade 5 in the secondary school consisting of 284 students in the beginning of the research. After the results were obtained, item analysis was performed on the test. As a result of the item analysis, the items with a coefficient of item discrimination (rjx) higher than 0.30 were included in the achievement test. Thus, an English achievement test consisting of 34 items with high item discrimination coefficient was obtained. Then, the reliability analysis was performed on the test items. The reliability coefficient as a result of the analysis performed by KR-20 technique was found to be as .86. This value shows that the test has a high reliability for use in the research process. The achievement test was administered to experimental and control groups three times for pre-test, post-test and retention test. The teacher accompanied the researcher during tests in the class. A lesson hour (40 minutes) was allocated for the application of the test. In practice, it was observed that the duration was sufficient. In the research process, the students were required to attend the pre-test, post-test and retention tests regularly and the delivery of the tests was completed on the same day in all groups. In English achievement test, the correct answer was coded as (1), and wrong and blank answers were coded as (0).

Data Analysis Techniques

Before analyzing the research data, it was tested to see whether it met the assumptions of normal distribution (Yurt & Sünbül, 2012). According to the Shapiro Wilk test analysis results, achievement and attitude measurements of the study did not show normal distribution. Therefore, non-parametric statistical techniques were used in the analysis of research data.

In this study, the Mann Whitney U test was used to compare the pretest and attitude scores and the post-test and attitude scores of the groups due to the lack of normal distribution of the data. According to Lehmann (2006), the Z value corresponding to the U value is included in the scientific tables in the analysis results of the Mann Whitney U technique. The significance level of p=0.05 is taken as the basis for the evaluation of the findings.

Results

The first research question of the study was "is there a significant difference

in terms of academic achievement between the control group in which the activities of the teacher's guide book based on the current curriculum were used and the experimental group in which reflective teaching activities were used. The findings related to the first research question are given in Table 5.

Table 5. Comparison of Post-test Scores of Students in Experimental and Control Groups

	N	**Mean Rank**	**Rank Sum**	**Mann Whitney U/Z**	**p**
Experimental Group	18	22.22	400.00	-2.536	0.011
Control Group	17	13.53	230.00		

$p<0.05$.

The results of the Mann-Whitney U test on the post-test achievement scores of the students in the experimental group who received reflective learning activities and the students in the control group who received the activities in the teacher's guide book based on the current curriculum are shown in Table 5. According to the analysis, Z value was found as 2.53 for the post-test mean scores of the two groups. Therefore, there is a significant difference between the post-test achievement scores of the experimental and control groups. When the mean scores of the groups were examined, the experimental group students who received reflective thinking activities had higher post-test achievement scores than their peers in the control group.

The second research question of the study was "is there a significant difference in terms of retention test scores between the experimental group in which the reflective teaching activities are used and the control group in which the activities in the teacher's guide book based on the current curriculum are used?" The findings regarding the second research question of the study are given in Table 6 below.

Table 6. Comparison of Retention Scores of Students in Experimental and Control Groups

	N	**Mean Rank**	**Rank Sum**	**Mann Whitney U/Z**	**p**
Experimental Group	18	21.53	387.50	-2.100	0.036
Control Group	17	14.26	242.50		

$p<0.05$.

Table 6 shows the results of the Mann Whitney U test performed on the retention test scores of the students in the control group who received the traditional teaching practice and the students in the experimental group who received reflective learning activities. According to the analysis, Z value was found as 2.10 for the retention test scores of the two groups. Thus, there is a significant difference between the retention test scores of the experimental and control groups. When the mean scores of the groups were examined, the students in the experimental group who received reflective thinking activities achieved higher retention scores than their peers in the control group.

The third research question was "is there a significant difference with regard to attitudes towards English at the end of the teaching period between the

experimental group in which reflective teaching activities are used in English course and the control group in which the activities of the teacher's guide book based on the current curriculum are used?" The findings related to the third research question of the study are given in Table 7.

Table 7. Comparison of Attitude Post-test Scores of Students in Experimental and Control Groups

	Group	**N**	**Mean Rank**	**Rank Sum**	**Mann Whitney U/Z**	**P**
Comparison of Attitude Post-test Scores of Students in Experimental and Control Groups	1.0	18	20.67	372.00	1.60	0.118
	2.0	17	15.18	258.00		

$p<0.05$.

Table 7 shows the results of attitude towards English score obtained from both groups. In the attitude post-test, the mean scores in the experimental and the control groups were as 20.67, 15.18, respectively. Although the mean scores of the students in the experimental group were high, the differences in scores of the groups were not significant ($Z=1.60$; $p<0.05$). Thus, it could be argued that reflective teaching program used in the experimental group did not lead to a significant difference in students' attitudes towards English compared to the control group.

Since there was no difference between the attitude post-test scores of the students in the experimental and control groups, the attitude pre-test and post-test scores were compared separately in both groups.

Table 8. Comparison of Attitude Pretest-Posttest Scores of Students in Experimental Group

	N	**Mean Rank**	**Rank Sum**	**Wilcoxon Z**	**p**
Negative Ranks	5^b	8.20	41.00	-1.945	0.052
Positive Ranks	13^c	10.00	130.00		

$p<0.05$.

In Table 8, the Wilcoxon Z values for the pre-test and post-test scores of the students in the experimental group are displayed. According to the analysis, 1.94 Z value was calculated for the attitude pretest-posttest scores of the students in the experimental group. This finding is not significant at the significance level of 0.05. Therefore, there was no significant difference between the attitude pre and post scores of the participants.

The experimental practice did not lead to a significant difference in students' attitudes towards English course. According to the findings, reflective teaching activities do not have a significant effect on the attitudes of the students towards English lesson in groups receiving reflective teaching activities and the activities in the teacher's guide book based on the current curriculum.

Table 9. Comparison of Attitude Pre-Test and Post-Test Scores of Students in Control Group

		N	Mean Rank	Rank Sum	Wilcoxon Z	p
Attitude Scale Posttest-Pretest Scores	Negative Ranks	8[b]	7.81	62.50	-0.668[c]	0.504
	Positive Ranks	9[c]	10.06	90.50		

$p<0.05$.

In Table 9, the Wilcoxon Z values calculated for the attitude pre-test and post-test scores of the students in the control group are displayed. According to the analysis, Z value was found as 0.666 for the attitude pre-test and post-test scores of the students in the control group. The results indicate that there was no significant difference between the pre-test and post-test scores of the students in the control group.

Discussion

According to the results based on research findings, reflective teaching activities are effective in increasing students' English achievement. It is thought that reflective teaching activities include student-centred, questioning, interactive activities and aims to develop foreign language skills by reflecting what students have learned and reflective thinking teaching increases the effect on students' learning achievement. Based on this, teachers should include student-centred educational practices during English language teaching, and ensure that students reflect what they have learned through questioning and interaction-based learning.

Numerous methods, techniques and activities have been employed to achieve high level cognitive and affective goals in the processes of teaching, planning, implementing and evaluating English based on reflective teaching practices. There was an increase in the foreign language levels of experimental students in reflective teaching environments where intensive communication and interaction was provided with both the teacher and the students. For this reason, it will be beneficial for English teachers to use techniques that provide intensive communication and interaction among students during teaching.

In Turkey, the studies show that reflective teaching is more effective than the proposed program in increasing the success of students in different schools and grades. Similar studies in the literature confirm the results obtained in this study (Bölükbaş, 2004; Ersözlü, 2008; Tok, 2008; Kırnık, 2010; Keskinkılıç Yumuşak, 2017; Uygun & Çetin, 2014). There is a parallelism between the results of previous studies and the findings of this study. According to Pitoniak et al. (2009), the continuity of development of language skills in foreign language is important. In this study, significant change was observed in the academic success of students in English and during the semi-structured interviews with both students. All these findings confirmed the results of the research of Pitoniak et al. (2009).

Schön (1983), one of the pioneers of educational sciences in the field of reflective teaching, states that reflection involves an approach based on a close

examination of what practitioners actually do. Questions like "Did my application work? Why did it work? Why didn't it work? What else can be done?" were expressed by the students in the experimental group in individual and group sessions (reflection-on-action). The students' answers to such questions have enabled them to learn the foreign language content in a meaningful way. According to Schön (1983), many experienced practitioners are able to reflect on their own applications by reflecting during practice (reflection-in-action). In reflection-in-action, the person conducting the practice has the opportunity to reflect on his/her experience for a longer time and more in detail because, in this type of reflection, the person analyzes his/her practice after the action and reaches results. In short, practitioners shape their future practice by questioning their own practice in both types of reflection. While reflection-in-action is shaping their work during practice, reflection-on-action helps them evaluate the practice by focusing on how known can lead to unexpected results in the practice (Schön, 1983; Ekiz, 2003). In this research, during the reflective teaching activities, the questions like "Did my practice work? Why did it work? Why didn't it work? What else can be done?" have been on the agenda of the students and this has increased the students' success in learning English. For this reason, in teaching English, teachers should work on the students' reflective learning questions.

According to another result of the research, reflective teaching practices increase the permanence of success in English course. The retention test measures information about the behaviour and the retrieval of long-term memory. According to cognitive theorists, when the stimuli presented in the activities performed in a lesson are brought into experience and actively processed, it is easier to bring information back (Hergenhahn, 2009). In this study, the subject that was emphasized during the reflective teaching practice and activities was to make students understand foreign language content through their experiences, questions and interactions. All these applications provided effective learning and retention of knowledge in the experimental group. In retention test performed 6 weeks after the implementation, students' scores in English declined compared to the post-test scores. The decline was higher in the control group. However, the mean retention test scores of the students in the experimental group were about 6 points higher than mean pre-test scores, and there was a high mean of scores in favour of the experimental group. According to Gass and Selinker (2001), transfer is the transfer of previously learned to new learning status. Transference can be interpreted as transferring what is learned to advanced learning or life. This situation provides the permanence of the learned. In this study, in the experimental group, activities related to real-life with a reflective and student-centred approach were included while teaching English language and rules. The words taught and reflective activities in order to make students learn foreign language permanently were repeated in the following activities to reinforce what they learned and it is provided to reinforce what they have learned by associating with daily life.

According to Baş and Beyhan (2012), teachers who can exemplify students with their reflections, a curriculum that aims to develop reflective thinking skills of the students, to be a model for the students with their reflections, course content supporting students' reflective thinking skills and evaluation methods and tools

that reveal the development of students are effective in equipping learners with reflective thinking abilities. All these processes allow them to process information permanently and learn indirectly. In order to transfer the reflective thinking to teaching process and English course in the experimental group of the study, first of all, it was tried to provide an environment to support basic thinking skills. Thus, in order to realize the reflective learning systematically, writing learning journals, reflective journals, preparing development files, creating concept maps, asking questions, participating in reflective discussions, learning contracts and self-assessment activities were carried out. These activities, which lasted for 8 weeks, provided an effective retention of the contents in the experimental group. Fergus and Richardson (1993) stated that the traditional foreign language teaching strategy does not improve students' foreign language skills. Accordingly, in order to ensure retention in the English course, transferring what is learned to the advanced learning and daily life through reflective teaching activities is effective in ensuring the retention of English learning. Studies revealed that groups receiving reflective teaching had higher levels of retention than groups receiving the regular program following the curriculum in courses like, geography by Yıldırım and Pınar (2015), social sciences by Ersözlü (2008), Turkish by Bölükbaş (2004). The results of all these studies corroborate the findings of this study.

In reflective teaching approach, students can consciously determine their own learning objectives, control learning processes and ensure the continuity of learning performance (Altınok, 2002; Şahin, 2011; Ünver, 2003). All this contributes to students' taking responsibility for their own learning and doing what is needed. Our study corroborates the results of similar experimental studies which show that teaching activities based on reflective teaching practices increase the retention levels of what the secondary school students have learned in English lessons. In other words, reflective teaching practices increase the retention levels of English learning.

According to the results of the research, it is seen that reflective teaching practices have a similar effect on the positive development of students' attitudes towards learning English with current teaching practices.

Affective, as well as the cognitive, dimension of the learning process is an effective factor on many variables. One of the most important goals of all courses is the development of students' affective characteristics and the transfer of these characteristics to following teaching periods. The attitudes of the students towards foreign language lessons will determine their tendency towards second language learning in the future. Therefore, one of the most important objectives of this learning approach, in which a student-centred teaching paradigm is reflected in practice, is to develop positive affective characteristics of students. In most of the research on the effects of reflective teaching on student attitudes, it was found that in classes and courses using these teaching methods and techniques, students' attitudes were more positive than the ones in groups receiving traditional teaching (Baş & Beyhan, 2012; Güney, 2008; Wilson & Wing Lesley, 1993). In literature, it was observed that student-centred reflective teaching practices, rather than traditional and current teaching practices, increased the sense of sacrifice among students and had a positive attitude-enhancing effect on subject area and the

studies showed that such groups showed higher motivation, attitude and success. In this study, it is expected that reflective teaching practices will positively affect students' attitudes towards learning English. However, the results obtained were different from those in the literature. During the research process, the same teacher taught English in the experimental and control groups. Attitudes towards the course can be influenced by affective factors related to teachers. According to the researcher's observations, the English teacher's attitudes and behaviours in a private secondary school motivated student. In both the experimental and the control groups, a significant increase was observed in the post-test scores in the attitude scale. The increase in the attitude scores of both groups did not lead to a significant difference. This may be due to the fact that the attitudes have a long-lasting nature (Genç & Şahin, 2015; Aslan Efe, 2015), that the students do not reflect their attitudes as they are, and that the duration of the research is not sufficient for this change. Testing the effects of reflective teaching practices on the affective tendencies of students in English course in further research will contribute to the field.

Conclusions

The aim of this study is to investigate the effects of reflective thinking-based teaching activities on academic achievement, retention and attitude towards English course in secondary school English classes.

The application and analysis conducted in the study and the finding that teaching activities based on the reflective teaching approach increase the foreign language course success of secondary school students are similar to the results of many studies conducted on this subject and variables in the literature. In other words, reflective teaching practices increase students' success.

As a result of the experimental applications carried out, the finding that teaching activities based on reflective teaching practices increase the retention of what secondary school students learn in English lessons is in line with the results of similar studies in the literature. In other words, reflective teaching practices increase the permanence of what is learned in English lessons.

In parallel with the results of the literature, it was expected that student attitudes would increase compared to the other group due to the intense student-centered practices in this study. However, this result was found to be inconsistent with other research results. This may be due to the fact that attitudes are characteristics that change in a long time, they do not reflect the attitudes of students in their measurement and the duration of the research is not sufficient for this change.

Recommendations

According to the results obtained based on research findings, reflective teaching activities are effective in increasing students' English achievement.

Similar studies can be carried out with all learning objectives, learning areas and contents for the whole academic year. Thus, the effects of reflective instruction on the development and teaching of all foreign language skills can be tested.

(1) Teachers of foreign language courses at secondary level may be advised to include more reflective teaching activities or to use the entire reflective teaching application steps arranged by Sünbül (2010) in the planning and implementation phase. Reflective Thinking Activities such as Learning Contract, Writing Learning journals, Feedback-Correction, Reflective Journals, Creating Concept Maps, Questioning, Participation in Reflective Discussions and Preparing Development File could be suggested to be used effectively in lessons. Before starting the practice, the students should be informed in detail about the reflective practices and the application process should be planned carefully.
(2) Student workbooks, teaching materials and tools in accordance with the reflective teaching approach and techniques can be developed in foreign language teaching programs at secondary level. In this context, English teachers can be given trainings on reflective teaching practices and the use of materials. In service training on reflective teaching can be provided for teachers to facilitate them with a better knowledge to apply reflective teaching method in their classes.
(3) Reflective teaching materials for English classes can be prepared in cooperation with the other colleagues, and these materials can be shared online. Every teacher may contribute and use the materials developed for a specific topic.
(4) Future longitudinal (observational) research can be carried out to demonstrate the long-term effects of reflective teaching practice. Conducting research to demonstrate the effect of reflective teaching in different language skills and at all levels of acquisition in foreign language will reveal important results in a holistic approach.
(5) In the findings of the study, it was found that reflective teaching activities did not lead to a significant difference in the attitudes of students in the experimental group receiving reflective teaching towards English course in comparison to the control group. In this context, more comprehensive qualitative and quantitative research can be done on the effects of reflective teaching practices on students' affective learning products. Teachers' and students' opinions about reflective teaching and learning can be examined.
(6) Further studies are recommended to be conducted in order to obtain relevant data to facilitate the effective use of reflective teaching in other classes other than English course to reach the goals and objectives of a lesson.
(7) Finally, it is recommended to develop scales to measure teachers' reflective teaching skills in relation to the variables implemented in the experimental process of this study.

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What are the Expectations of Primary School Teachers from Instructional Leaders during the Distance Education Period?

By Muhammet Emre Kılıç[*]

The aim of this research is to determine primary school teachers' expectations from instructional leaders during the distance education period. In this study, which was formed in the context of qualitative research method, the case study was used. The participants of this study consist of 11 teachers who worked in primary schools during the 2020-2021 academic term. This data collection tool consisting of 5 questions was prepared as a semi-structured interview form. As a result of the research, the themes of vision, mission, education programs, supervision, school culture and professional development were found, and sub-themes formed depending on these themes were specified.

Keywords: instructional leadership, primary schools, teachers, students, distance education

Introduction

Situations such as natural disasters, economic recessions and environmental problems cause changes in organizational culture (Lunenburg & Ornstein, 2011). It cannot be said that teachers are willing to observe these changes and make new arrangements (Owen, 1987). In this context, education administrators should make efforts to solve problems and develop employees due to the nature of leadership (Bass & Stogdill, 1990; McShane & Von Glinow, 2005). This situation can be described as the difficulties faced by teachers during the distance education period and what education administrators have to do to solve these problems.

Especially during the pandemic period, life has lost its normal rhythm and education systems have experienced great difficulties (Daniel, 2020; Zhao, 2020). In addition to this, teachers have experienced negative situations such as uncertainty, sadness and anxiety (Kim & Asbury, 2020). They have had many problems such as internet connection problems, difficulties about evaluating students, difficulties in making teaching materials, and parents' inability to collaboration (Fauzi & Khusuma, 2020). It is thought that instructional leaders can solve these problems with their qualifications.

Instructional Leadership

There are many leadership behaviors to increase the effectiveness and efficiency in schools or solve problems in schools. For example, ethical leadership

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that emphasizes value-based management in schools and distributed leadership that emphasizes the distribution of roles to increase the effectiveness of schools can be examples of these leadership behaviors. This presents a new vision in the context of the values, beliefs and assumptions of the school (Brown, Treviño, & Harrison, 2005; Spillane, Halverson & Diamond, 2004; Stolp, 1994).

One of the leadership behaviors that increase the effectiveness of the school is instructional leadership (Purkey & Smith, 1983). Studies have revealed that positive management behavior affects students' success positively (Blankstein, 2004; Şişman, 2002). Instructional leadership behavior, which initially appeared as controlling and coordinating educational programs, gradually became instructional leadership (Bossert, Dwyer, Rowan, & Lee, 1982).

When we examine the definitions of instructional leadership, it is about activities that directly affect student development. Therefore, the focus of leadership is the teacher. That is, instructional leadership is thought to change teacher behaviors (Leithwood, Jantzi, & Steinbach, 1999). There are two opinions about instructional leadership. The first of these views is the narrow view, which is the teacher behavior that develops the students. The second is the broad view, which is the leadership behaviors that affect teacher behavior with organizational variables such as school culture (Sheppard, 1996; Leithwood, Jantzi, & Steinbach, 1999). Narrow view includes education and training activities, while broad view includes administrative behaviors (Murphy, 1988). In other words, it can be said that the leader has the responsibility of the teaching process, developing curriculum, following and evaluating the behaviors in the school (Erdoğan, 2000). When the dimensions of the authors were examined in order to reveal the dimensions of instructional leadership, the most common citations made by the researchers are shown in Table 1.

Table 1. Dimensions Regarding Instructional Leadership

Dimensions of Instructional Leadership	Hallinger (2003)	Spillan, Halverson & Diamond (2004)	Blase & Blase (2000)	Duke (1982)	Weber (1989)	Krug (1992)	Short & Spencer (1989)
Determining the vision and mission of the school	x	x			x	x	x
Creating a school culture based on learning, trust and cooperation	x	x		x	x	x	
Editing the educational program	x				x	x	x
Promoting professional development	x	x	x	x			
Supervision				x	x	x	

Just as there is no single definition of the concept of leadership (Özkalp & Kırel, 2010), there is no single definition in instructional leadership. Especially when the literature is examined, it is seen that the researchers bring different definitions and different dimensions of instructional leadership (Andrews, Basom, & Basom, 1991; Blase & Blase, 1998; Leithwood, 1994).

Thanks to its qualities such as creating a positive classroom climate, supporting student development, equal distribution of resources, providing high visibility,

promoting professional development, maintaining teaching time, promoting the school climate, editing the educational program, creating a school culture based on learning, trust and cooperation and determining the vision and mission of the school, It is expected that instructional leaderships meet the needs of teachers (Hallinger, 2003; Spillane, Halverson, & Diamond, 2004).

Blase and Blase (2000) have revealed that managers should provide suggestions, feedbacks, and speak with teachers to praise employees. In addition to this, they should be model. Duke (1982) have stated that managers should develop staff for the effectiveness of principals as instructional leaders. Second, they should reduce the stationery work from teachers. They should take care of students rather than teachers. Third, they should ensure that school principals acquire and properly allocate resources within the school to ensure organizational effectiveness. Short and Spencer (1989) stated that instructional leaders should create a vision for teachers, students and parents. Besides, they must create a safe environment. Leaders should develop a school-related curriculum. They should work with teachers and monitor school performance to improve teaching.

Weber (1989) has revealed that instructional leaderships have substantial taks such as defining the mission of the school, managing the curriculum and teaching, promoting a positive learning environment and the evaluation of curriculum. Similarly, Krug (1992) classified instructional leadership as setting the mission, organizing the instructional program, supervising teaching, monitoring student development, and promoting the teaching climate. Smith and Andrews (1989) stated that instructional leadership is a resource provider that uses time and resources effectively. They have educational resource provider roles that undertake training programs, staff evaluation and evaluation.

It is thought that this research is important to determine the needs of primary school teachers who do not know what to do as a result of distance education caused by the pandemic or who want to eliminate their own deficiencies. In addition, this research is thought to contribute to the field in terms of showing the contribution of instructional leadership to primary school teachers.

The aim of this research is to determine primary school teachers' expectations from instructional leaders in the distance education period. For this purpose, the following questions are:

1) What are the expectations from the education manager during the distance education period?

    a) What are the expectations from school administrators in the context of the vision and mission of this period?
    b) What are the expectations from school administrators in the process of creating school culture?
    c) What are the expectations from school administrators in the execution of the training program?
    d) What are the expectations from school administrators for the professional development of teachers?

e) What are the expectations from school administrators about supervision?

Method

In this section, the pattern, participants, and analysis of the research are presented.

Research Pattern

Qualitative research method and the case study have been used in this study. The case study cannot be generalized independently and for different situations (Yıldırım & Şimşek, 2013). In addition to this, It is an intense analysis and description of one or more conditions (Christensen, Johnson, & Turner, 2015; Glesne, 2012).

A case study is a detailed demonstration of one or more cases (Christensen, Johnson, & Turner, 2015). First, case studies focus on a specific event or phenomenon. Secondly, the findings obtained in this method contain deep and intense descriptions. Third, case studies describe the phenomenon in the study. Information can be confirmed or new meanings may arise (Merriam, 2013). In case studies, every situation is different. However, similar situations can be understood (Yıldırım & Şimşek, 2013).

Studying Group

The participants of this study consist of 11 teachers who worked in primary schools in Erzurum during the 2020-2021 academic term. When the data obtained from the study group repeat itself, data collection is stopped (Creswell, 2013; Merriam, 2013). The teachers included in the study were selected from the purposive sampling method. In this way, the situation that is easy to reach and close is selected and analyzed. The six of the participants in the study group are women and five of them are men. The average working year of the participants is 7,18. The average age of the participants is 30, 78.

Data Collection Tool

Interview technique was used while qualitative data were being collected. The interview technique is substantial in terms of revealing the feelings, experiences and opinions of the participants. Beisdes, one of the most basic elements of the interview is the form that guides the interview. In this study, while the interview form were being prepared, some basic principles such as understandable questions, avoiding guidance, asking open-ended questions, preparing focused questions, organizing multidimensional questions in a logical manner and developing questions were used (Yıldırım & Şimşek, 2013). In order to prevent adverse effects on the research process and solve the problems that may arise, a pilot interview

was held with two teacher participants and it was re-evaluated whether the interview form served the purpose or not.

The data collection tool used in this study was developed by the researchers. The questions were prepared to use the factors obtained as a result of the literature review. This data collection tool consisting of 5 questions was prepared as a semi-structured interview form. In semi-structured interviews, questions should be formed from different structured techniques or flexible questions (Merriam, 2013). In order to evaluate the clarity of the questions in the interview form and their suitability for the purpose, three field knowledge experts evaluated draft text and It was rearranged in the light of feedbacks. By following this method, the internal validity of the measuring tool was tried to be ensured with expert opinion (Şener et al., 2012; Yıldırım & Şimşek, 2013).

Data Analysis

The interview were held between 1-25 December 2020. General information about the research was given to the study group. The average duration of interview was 35 minutes. First, the data obtained through the semi-structured interview form was stored as a Word document and then transferred to NVivo-8 program. The NVivo program provides more practical tools to overcome the difficulties in the arrangement and analysis of this data set (Baş & Akturan, 2008), and the NVivo program also helps to make detailed analysis (Balcı, 2011). Later, the data transferred to the NVivo program was analyzed by content analysis. First of all, the categories are determined by considering the sample differences. Then, the categories are revealed with quantitative indicators by the coding. Subsequently, the quantitative indicator obtained from the qualitative data is used for interpretations and analysis of the research (Bilgin, 2006). A separate model was obtained for each hypothesis as a result of the content analysis. In this model, the redundancy of codings and reference numbers obtained in content analysis are shown by the excess of arrows (loading or citation) in the target model.

The excess of arrows in the target model was obtained by dividing the coding obtained from the loading created for each sub-theme by 5. Whereas the least cited sub-theme or theme is 1k, the most cited sub-theme or theme is shown with 5k. In other words, as the number of citations increases, the uploading to the target sub-theme or theme increases. The data were coded according to the variables related to the participants. The opinions of the participants were randomly ordered from 1 to 11. The participants were coded with T.

It is important for the accuracy of the observations to ensure the reliability of qualitative research, and for the validity of the categories (Şener et al., 2012). In order to ensure the reliability of the research, member control was made first. The data obtained from the study group were given to the same people after the application and their writings were asked to be confirmed. However, in the reporting of the study, the quotations of the participants were included in the study without any additions, and all the data obtained were recorded completely. While examining the data obtained to ensure the validity of the research, the researchers

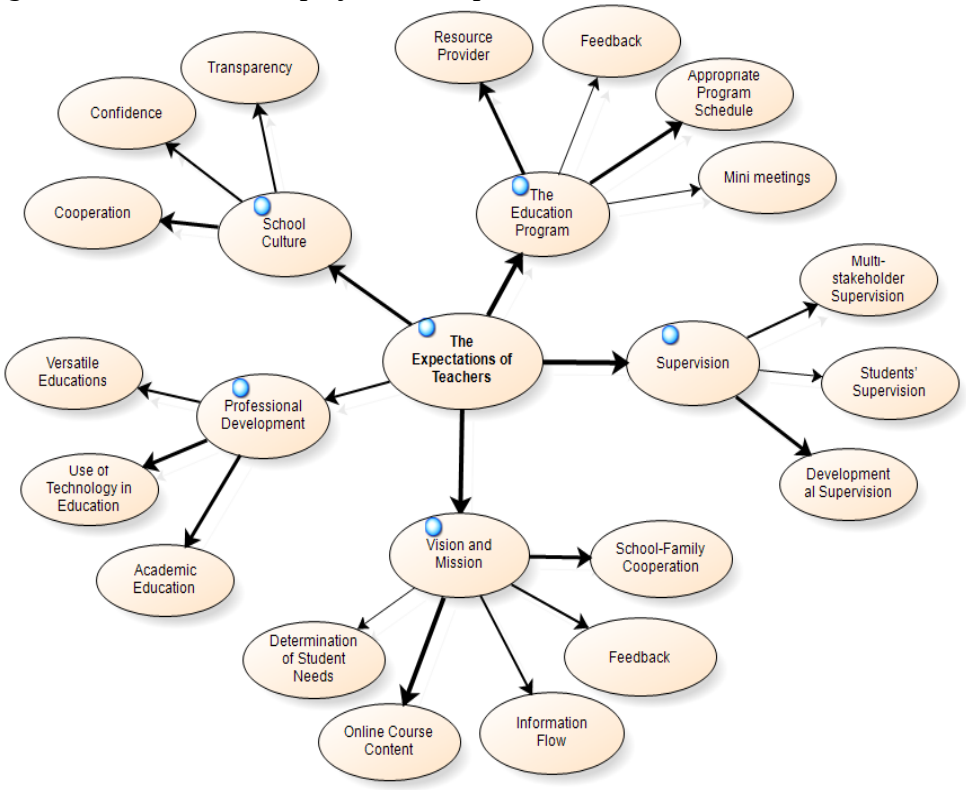
carried out the analysis process independently from each other. Then, the findings obtained were compared and their consistency with each other was confirmed.

Results

The diagram obtained from the opinions of the participants regarding the expectations from the education administrators during the distance education period is shown in the figure below. In addition, the themes consisting of the opinions about the expectations of the teachers and the reference views that led to the emergence of these themes are given below.

When Figure 1 is examined, according to the answers of the participants, three themes received the most citations equally. These themes are vision and missions, regulation of the training program and supervision After these three themes, the most cited theme is school culture. The least cited theme is professional development. Providing information about these themes will begin with the mission theme, which is one of the themes that have three references at most. In addition to this, the themes and sub-themes related to them are detailed in Figure 1.

Figure 1. A Shematic Display of the Expectations of Teacher



Providing information about these themes will begin with vision and mission theme, which is one of the themes that received the most citations equally. Sub-

themes related to the vision and mission theme and some examples of views on these sub-themes are given.

Online Course Content: The most cited sub-theme is 'online course content' for the vision and mission theme. In other words, primary school teachers have expectations from education administrators about what to do in online lessons during the distance education period. Some examples of this sub-theme are given below:

> "… They should give examples of what I can do in online lessons… (T2)"
> "… First of all, I have expectations on what tools will be used for distance education activities, how to use these tools, and how we can interact with students in distance education activities like the classroom environment … (T5)"
> "… In this process, we needed to get information on subjects such as assessment and evaluation, planning live lessons, and increasing student participation… (T9)"

School-Family Cooperation: Another sub-theme is 'school-family cooperation' for the vision and mission theme. In other words, Primary school teachers say that the work of school-family cooperation is one of the important tasks of schools in distance education. Some examples of this sub-theme are given below:

> "… there are important things such as providing parent-teacher-student coordination, reducing the level of anxiety about the situation, leading different entertaining and instructive contents, etc.… (T6)"
> "… What can be done for school-family cooperation and even what can be done to achieve this can be planned.… (T10)"

Information Flow: Another sub-theme is 'school-family cooperation' for the vision and mission theme. Teachers think that the continuous flow of information to them in the online education process is important. The view regarding this sub-theme can be given as an example: "…first of all, considering the teachers of all age groups general information about the online process should be given...T11"

Feedback: Another sub-theme is 'feedback'. Primary school teachers stated that feedback is one of the important duties of the school administration during the distance education period. The view regarding this sub-theme can be given as an example: "I will be pleased with the feedback of our administrators by reviewing the in-class activities or the forms of our interviews thoroughly...T8"

Determination of Student Needs: Another sub-theme is 'determination of student needs' for the vision and mission theme. The view regarding this sub-theme can be given as an example: "…in the distance education process, determining targets according to the opportunities and conditions of the students and providing opportunities in line with these targets were among my expectations...T4"

Another main theme that receives the most citations is the regulation of the education program. Sub-themes related to the training program and some examples of views on these sub-themes are given.

Resource Provider: The most cited sub-theme is 'resource provider' for the regulation of the education program. In other words, primary school teachers

stated that education administrators should provide resources for lessons in term of online education. Some examples of this sub-theme are given below:

> "… Our school administrator should give information with his knowledge and skills about the school and the program. … (T2)"
> "… I just expected that administors shouldt give a draft as a framework curriculum… (T3)"
> "… It is important that they present changes in new educational content and curriculum.… (T11)"

Appropriate Program Schedule: Another sub-theme is 'appropriate program schedule' for the regulation of the education program. That is, primary school teachers want their daily and weekly lessons to be held within the appropriate schedule. Some examples of this sub-theme are given below:

> "… during this period, my expectations were from our manager to be fair in organizing the program and arrange lessons at appropriate hours for teachers. In addition to this, they should make arrangements… (T5)"
> "… Unfortunately, we cannot arrange our class hours for parents and us… (T10)"

Feedback: Another sub-theme is 'feedback' for the regulation of the education program. That is, Primary school teachers want that their administrators should learn their feedback about the education program during the distance education period. One examples of this sub-theme is given as "… we cannot get the information of our students "What did they learn, What did not they learn?" Arrangements could be made to get feedback… (T8)"

Mini Meetings: The last sub-theme is 'mini meetings' for the regulation of the education program. That is, primary school teachers want to participate in informative mini-meetings about the education program. One examples of this sub-theme is given as "… consultation on what changes can be made to the program under distance education conditions… (T1)"

Another main theme that receives the most citations is the supervision. Sub-themes related to supervision and some examples of views on these sub-themes are given.

Developmental Supervision: The most cited sub-theme is 'developmental supervision' for the supervision theme. Primary school teachers want developmental supervision rather than the classical supervision in the period of distance education. Some examples of this sub-theme are given below:

> "… In fact, we had expectations such as the announcement that they help for the points that needed guidance… (T5)"
> "… performance-enhancing teacher-manager interviews could be made. Administrators could support them… (T8)"
> "… in order not to leave teachers alone about these issues, situation assessment meetings could be held every week… (T10)"

Multi-Stakeholder Supervision: Another sub-theme is 'multi-stakeholder supervision' for the supervision theme. Primary school teachers stated that not

only teachers should be included in supervision but also families and school administration should be in supervision. Some examples of this sub-theme are given below:

> "… I hope that the process will become more qualified with the school-parent-teacher cooperation.… (T10)"
> "…supervision in distance education should be multiple. Children's self-control is very weak and we are not around them. School management should take a coordinating role and involve parents, teachers and management… (T11)"

Student Supervision: Another sub-theme is 'student supervision' for the supervision theme. Primary school teachers stated that students should be supervised closely with school managers. One example of this sub-theme is given as "… in addition to supervising the teachers, it was among my expectations that students should be supervised in terms of class participation and homework… (T4)"

Another main theme that receives citations is the school culture. Sub-themes related to the school culture and some examples of views on these sub-themes are given.

Cooperation: The most cited sub-theme is 'cooperation' for the school culture. In other words, primary school teachers see cooperation as an important value for the reconstruction of school and classroom culture in the distance education period. Some examples of this sub-theme are given below:

> "… In this process, I had expectation to act together with all teachers and parents of our school, not as the only teacher of a class.… (T5)"
> "…teachers should share their work with each others… (T9)"
> "… A solution proposal could be offered in cooperation with our teachers in order to reach these children within the principle of "Equality of Opportunity and Opportunity in Education… (T10)"

Transparency: The second cited sub-theme is 'transparency' for the school culture. In that, primary school teachers revealed transparency as one of the important parts of school culture. Some examples of this sub-theme are given below:

> "… Organizing online meetings regularly to receive transparent information and suggestions from teachers is also another factor… (T1)"
> "… I expected our school administration to provide information about all kinds of activities carried out to create a school culture and to be transparent for teachers.… (T5)"

Confidence: The last cited sub-theme is 'confidence' for the school culture. In that, trust is considered an important element of school culture. Some examples of this sub-theme are given below:

> "… we expected our school administrator should trust and support teachers.… (T2)"

> "… being aware of the difficulties of online education, teachers should be supported in this regard … (T6)"

The last main theme is the professional development. Sub-themes related to the professional development and some examples of views on these sub-themes are given.

Use of Technology in Education: The most cited sub-theme is 'use of technology in education' for the professional development. In other words, classroom teachers think that the most important thing that will contribute to their professional development is the use of technology. Some examples of this sub-theme are given below:

> "… the courses that teachers who are faced with the distance education process for the first time and who have little or no knowledge of web 2.0 tools in education should be organized… (T5)"
> "… I expected to be informed about seminars and presentations in order to learn about technology… (T7)"
> "… We were expected to master the etwinning project portal and web2 programs in a short time.… (T8)"

Academic Educations: The most cited sub-theme is 'academic education' for the professional development. In that, primary school teachers revealed that academic training is important for their professional development. Some examples of this sub-theme are given below:

> "… my expectation is that trainings will continue and will be developed further academically… (T3)"
> "… we had expectations on issues such as providing the necessary counseling by counselors or experts in order to give necessary informations to teachers, who experience the different classroom environment… (T5)"
> "… due to students' ages, it is important to receive training by expert pedagogues in order to motivate them in distance education… (T11)"

Versatile Educations: The last cited sub-theme is 'versatile education' for the professional development. One examples of this sub-theme is given as "… providing information about the trainings we can attend other than our formal trainings.… (T9)"

Conclusions and Discussion

The aim of this study is to determine the expectations of primary school teachers from instructional leaders during the distance education period. Therefore, the questions formed in the light of the instructional leadership characteristics obtained from the literature review were asked to the participants. According to the participants, themes are vision and missions, regulation of the training program, supervision, school culture and professional development.

According to the first finding, the sub-themes of the vision and mission theme are online course content, school-family cooperation, information flow, feedback and determination of student needs. These findings are similar to other research results. As a result of the researches, the vision and missions of schools strengthen teachers and students. There are findings indicating that the clear presentation of the school's vision and mission is very important in the school climate (Cho, 2017; Tofur & Balıkçı, 2018). Leana and Pil (2006) stated in their study that trust in schools, sharing information and having a shared vision have significant effects on students' achievements and parents' satisfaction. The priority of the principal of an educational institution is to determine the goals of the school. A school should have goals to regulate itself in order to see whether it is successful in its educational process or not. School principals should monitor each of the goals set. Attention to the schedules, courses and curriculum will enable the leader to change the education program. The main mission of the principal is to ensure that these goals are known and supported throughout the school. In addition to this, it can be said that instructional leaders have a direct and indirect effect on the success of students and the school. (Hallinger, 2003; Hou, Cui, & Zhang, 2019; Krug, 1992; Weber, 1989). Besides, it can be said that there is a strong relationship between instructional leadership and organizational commitment (Özdoğru & Güçlü, 2020).

According to the second finding, the sub-themes of the education program theme are resource provider, appropriate program schedule, feedback and mini meetings. These findings are similar to other research results. Wiles (2008) stated that the education program leader in the schools has four basic duties. These are cooperating among people, putting forward a work plan, coordinating the activities and defining the program. Krug (1992) stated that effective leaders provide the information to the teachers, plan their classes effectively, and actively support curriculum development. Although they do not attend the class and they don't teach, principals should know and be aware of the specific needs of each lesson. Without a broad knowledge base, principals cannot provide the resources necessary for teachers and staff to carry out the school's mission effectively. Smith and Andrews (1989) stated that they showed the ability to evaluate and reinforce appropriate and effective teaching strategies. That is, leaders know and share the latest research findings on teaching. In addition, they supervise staff using appropriate strategies to focus on improving teaching. For example, they present teachers' performance or organize conferences that include goals. Finally, while evaluating the curriculum, the instructor uses student outcome information directly related to teaching. Apart from these, Kaya and Yiğit (2020) stated that instructional leadership training programs should be organized.

According to the third finding, the sub-themes of the supervision theme are developmental supervision, multi-stakeholder supervision, students' supervision. These findings are similar to other research results. Glickman, Gordon, and Ross-Gordon (2001) stated that supervisors should have knowledge about interpersonal skills and technical skills to facilitate instructional development. School administrators should come together with teachers to ensure improvement. They can take advantage of opportunities and provide professional development with

teachers. Thanks to these, student learning can be achieved. Duke (1982) stated that the main mechanisms for ensuring supervision are evaluation, inspection, rewards and sanctions. School principals should closely monitor student development. They should monitor what is happening behind the classroom door using standardized test data, grades, teacher and counselor comments, and information about alumni activities. Krug (1992) stated that leaders should be aware of students' progress and assessment. School principals stated that it is necessary to improve the evaluation results that will help the development of teachers and students. Evalution and effective supervision are practice for teacher development (Brandon, Hollweck, Donlevy, & Whalen, 2018). Koşar and Buran (2019) stated that instructional leaders should supervise the lessons directly. In addition, instructional leaders should use constructive control elements. Çimen, Bektaş, and Yücel (2019) indicated that the assessments made by the school managers were positive in than the assessments made by external evaluators.

According to fourth finding, the sub-themes of the school culture theme are cooperation, transparency and confidence. These findings are similar to other research results. Balkar (2015) stated that confidence, risk-taking, encouraging autonomy, freedom, team work and sharing managment are important elements for empowering school culture. Şişman (2002) stated that it is important to create a learning environment based on sharing and trust in the management of school climate and culture and team spirit in the school. Anderman, Belzer, and Smith (1991) revealed in his research that teachers' perceptions of school culture positively affect their school commitment and job satisfaction. In addition to these searches, teachers cannot be expected to teach effectively if a teacher does not receive the necessary administrative support. Establishment of regular classrooms is highly dependent on the establishment of a regular school environment. However, principals can help teachers improve their classroom management skills by involving parents in problem solving. In addition to this, cooperation is also anaother factor to form effective learning (Duke, 1982; Hallinger, 2003; Pambudi & Gunawan, 2019).

According to the last finding, the sub-themes of the professional development are use of technology in education, academic educations and versatile educations. These findings are similar to other research results. Desimone et al. (2002) revealed in their study that active learning opportunities positively affect the professional development of teachers. Guskey (2002) presented a model for teacher change. In this model, professional development positively changes teachers' classroom activities. As a result, students' learning outcomes are positively affected. As a result, teachers' beliefs and behaviors change. In addition to this, Liu and Hallinger (2018) stated that instructional leadership effects on professional learning of teachers. Blase and Blase (2000) revealed what needs to be done for principals to improve teachers. In this context, education administrators should focus on educational activities. They should help collaboration among teachers. They should apply all certain principles of teacher development. Smith and Andrews (1989) presented that the educational manager knows the teachers closely. Education managers provide resources with them and provide opportunities for their development. Ismail, Don, Husin, and Khalid (2018) stated

that there is close relationship among teachers' skills, teacher knowledge and instructional leadership.

Suggestions

According to the first conclusion of the study, the teachers referred to the online content at the most. Secondly, teachers refered to the theme of scool-family cooperation. The third opinion was information flow. In addition to this, the opinions of the teachers were feedback and students' needs, respectively. Therefore, School administrators should assist teachers in determining the situation regarding student performance, proveding the needs of students and following up the feedback from students. In addition, school administrators should ensure the correct flow of information to teachers and parents.

According to the second conclusion of the study, teachers referred to resource provider for the regulation of the education program. According to teachers, second sub-theme is appropriate program schedule for the regulation of the education program. Third sub-theme is sub-theme is 'feedback'. According to the opinions of the teachers who participated in the research, the last sub-theme is the mini meetings. It is suggested that school administrators should analyze the curriculum. They should be learner leaders, analyze appropriate programs and share them with teachers. They should arrange the hours of their educational programs for the most appropriate hours for teachers and students. Accordingly, they should hold informative meetings and receive feedback for the continuity of their training programs.

According to teachers' views, the third conclusion includes three views. The most referred view of teachers is developmental supervision for the supervision theme. Second view of teachers is multi-stakeholder supervision. The last theme is student supervision for the supervision theme. It is suggested that education administrators should practice developmental supervision principles to primary school teachers rather than classical supervision. In other words, educational administrators should fulfill tasks such as direct assistance in the education process, group development, professional development, curriculum development, and action research in order to develop teachers.

According to another conclusion of the study, the most referred sub-theme related to school culture is cooperation. Secondly, the teachers refered to the transparency sub-theme. Finally, the last sub-theme is confidence according to teachers. It is suggested that education administrators should give importance to value-based behaviors in order to form a strong school culture. In order to create a strong organizational culture, an atmosphere of trust can be provided with activities such as social organizations.

According to the last conclusion, the sub-themes of the professional development are use of technology in education, academic educations and versatile educations. According to the opinions of teachers, the most substantial opinion among these sub-themes is use of technology in education. The second is academic educations. In addition to this, the last view about this theme is versatile educations.

Therefore, it is recommended to provide more training in the context of technology during distance education.

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Evaluation of TALIS 2018 Results in the Context of Professional Development: Turkey Sample

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In this research, participation in professional development (PD) activities, perceptions of PD needs and barriers for PD, and differences in terms of seniority were examined in Turkey sample based on the Teaching and Learning International Survey (TALIS) 2018 data. A total of 15,498 teachers, including 3,204 primary school teachers, 3,952 secondary school teachers and 8,342 high school teachers, were included in the sample of the study. The results of the research show that teachers participate more in-service trainings within the scope of mandatory PD policies. Peer observation, coaching, and observation visits to workplaces, public institutions or non-governmental organizations and other schools are the least PD activities that teachers participate. Teachers need PD more in the field of teaching students with special needs and in multicultural or multilingual environments. According to teachers, the biggest barriers to PD are the lack of any incentives and support to participate in PD, incompatibility with the work schedule and the lack of appropriate PD activity. In addition, PD activities that teachers participate in, PD needs and barriers to PD are significantly different in terms of seniority. The results were discussed in terms of PD literature and Turkey context and suggestions have been made based on the results.

Keywords: TALIS, OECD, teacher development, professional development, barriers for development

Introduction

There has been an increasing interest in the professional development (PD) of teachers since the early years of the 21st century. With great emphasis on the quality of teachers, the teachers' participation in PD activities has become one of the most controversial educational issues both in research and policy settings (Gümüş, 2013). Reasons for PD also differ from each other significantly (Imants & van Veen, 2008). Changes in society and education reforms (Hoekstra, 2007; Hoekstra et al., 2009; Vermunt & Endedijk, 2011), changes in teachers' roles in transferring traditional knowledge (Kwakman, 2003), seeing teachers as a key factor in student performance and school success (Heystek & Terhoven, 2015; İlğan, 2017; Opfer & Pedder, 2011; Shoshani & Eldor, 2016), and education system's ability to remain competitive globally (Bayar, 2014) are the prominent reasons. Teachers need to continually improve and update their skills to help students become competent, competitive and socially integrated adults (OECD, 2005).

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Teachers are also learners who are directing their PD as part of the profession. For this reason, continuous PD tools have become an important need to increase the knowledge and skills of teachers and to improve their beliefs about education. In addition, high quality PD is an essential component of almost all modern suggestions to raise academic standards. Policy-makers increasingly recognize that schools cannot be better than teachers and administrators who work within them (Guskey, 2002). As a matter of fact, in the study conducted by Opfer and Pedder (2011), it was concluded that according to the classification made by the National Foundation of Educational Research (NFER) of England, there are PD structures suitable for effective professional learning characteristics in schools in the high achievement band. There is also evidence that teacher learning (Buczynski & Hansen, 2010) and prolonged PD activities (Darling-Hammond et al., 2009) affect student achievement.

While the impact of PD on teacher quality and student achievement becomes clear, the characteristics of effective PD and effective PD models, and the factors affecting teachers' participation in PD activities have become the main research topics. On the other hand, various PD models (Desimone, 2009; Guskey, 2002; Opfer & Pedder, 2011) have been developed for effective PD designs. However, a "one size fits all" approach (Darling-Hammond et al., 2009) is criticized severely when designing PD since a PD activity may be an important learning tool for one teacher but not for another. A more holistic approach needs to be developed in order to reduce the waste of time, money and effort in PD and to ensure effective teacher learning (Cameron, Mulholland, & Branson, 2013). This requires considering various school levels, individual characteristics of teachers, and contextual conditions when planning PD.

The PD of teachers has become an important theme in international assessment researches such as Teaching and Learning International Survey (TALIS), Programme for International Student Assessment (PISA), and Trends in International Mathematics and Science Study (TIMMS). Among them, especially TALIS focuses on the structures and stakeholders in education systems. Since the first application in 2008, PD of teachers has been considered as an important theme. Under this theme, PD activities that teachers participate, their needs, and supports and barriers for participation are discussed in detail. Just as student learning requires sensitivity to individual needs, effective PD of teachers should be designed based on different needs and opportunities. In this context, this research aims to reveal these differences in terms of seniority according to the results of TALIS 2018 based on the sample of primary, secondary and high school teachers in Turkey.

Literature Review

Professional Development

PD is a systematic cornerstone of reform efforts to increase teachers' capacity to provide qualified teaching (Özer & Anıl, 2014). Although the concept of PD

has a long history, there is no agreed-upon definition by researchers. Avalos (2011) defines PD as how teachers learn, how they learn to learn and how they perform their knowledge to support students' learning; OECD (2009) defines PD as activities that improve the knowledge, skills and expertise of the individual; and Guskey (2002) defines it as systematic efforts to change teachers' classroom practices, attitudes and beliefs, and thus learning outcomes. The definitions emphasize two main characteristics of PD; PD is a learning process for teachers and the aim is to improve learning outcomes. A qualified PD can be said to make positive contributions to teacher learning, improve teachers' knowledge and skills, help them develop positive attitudes and beliefs towards the profession, improve their teaching practices and ultimately promote student learning.

In the literature, the PD of teachers is expressed with different concepts such as continuous PD, professional learning and teacher learning. These concepts emphasize different aspects of PD. While continuous PD indicates that this is a process and requires continuity, professional learning or teacher learning emphasizes teachers' taking responsibility through different activities.

When it comes to the PD of teachers, the first thing that comes to mind is traditional approaches such as in-service training, seminars, and courses. However, although traditional PD models are quite common, they are criticized for being ineffective in providing sufficient time, activity, and content to increase teachers' knowledge and to encourage meaningful changes in classroom practices (Abu-Tineh & Sadiq, 2018). In this context, instead of traditional in-service trainings, models based on interaction and informal learning such as mentoring, coaching and peer observation come to the fore. Defining the characteristics or combinations of characteristics that define effective continuing PD activities is one of the main policy challenges in ensuring continuous PD (OECD, 2019a). It can be said that a certain consensus has been reached in the literature about the characteristics of high-quality PD (Desimone et al., 2002; İlğan, 2017). It is possible to summarize them as follows (Darling-Hammond, Hyler, & Gardner, 2017; Guskey, 2003; İlğan, 2017; Kedzior & Fifield, 2004; Labone & Long, 2016):

- Focus on the content.
- Reflection and feedback.
- Self-assessment.
- Compliance with teachers' knowledge and beliefs, as well as wider school and system-based policies.
- Being a part of daily work.
- Active learning opportunities.
- Connection to high standards.
- Opportunities for teachers to engage in leadership roles.
- Cooperation and continuity.
- Participation of teachers in the same school, class or department.

As a PD tool, teachers have many professional learning resources. These can generally be stated as formal and informal learning resources. Formal learning takes place in a more structured, classroom-like educational environment, while

informal learning does not require a specific place or even a teacher or an instructor (Lecat, Beausaert, & Raemdonck, 2018). Postgraduate and in-service trainings can be evaluated within the context of formal learning. Informal learning resources are more diverse. Errors as a result of experience (Atmaca, 2020), non-compulsory collaborative structures, reading books and researching on web, or implicit learning in the context of the workplace are examples of informal learning. In the synthesis study conducted by Kyndt, Gijbels, Grosemans, and Donche (2016), it was determined that the most frequently defined learning activities in research studies are reading professional literature, observation, collaboration with colleagues, and learning through reflection and experience.

OECD (2019a) draws attention to three main components for the PD programs to be developed, which are needs, support and barriers. Studies and improvements in these areas may enable the design of effective PD programs. PD needs and barriers for PD are discussed below along with the related literature. The Turkish Education System has a central structure and there are no support structures that can change in terms of different variables. In addition, PD support was not addressed in the current study since local education administrators and school administrators do not have a wide range of resources and competencies in PD support.

PD Needs of Teachers

The first question to be asked in the planning of PD of teachers is "What do teachers want to learn?" An effective PD is expected to meet the needs of teachers. Considering profession-specific competencies, these needs can be classified as professional knowledge, professional skills and professional attitudes and values (MoNE, 2017). In this context, field knowledge, pedagogical content knowledge and legislative knowledge are related to professional knowledge; measurement and evaluation, managing and planning the teaching process are related to professional skills; and finally, beliefs and emotions are related to the professional attitudes and values. The needs of teachers in these areas differ to a great extent (Zhang, Shi, & Lin, 2020).

An important feature of effective PD practices is its being teacher-oriented (Kedzior & Fifield, 2004). PD activities must be sensitive to teachers' needs that arise as a result of teachers' self-assessment. However, Petrie and McGee (2012) stated that many PD practices were applied homogeneously and various learning needs of teachers who have different teaching experiences, worked in different school settings are less considered while designing PD activities.

While PD activities are planned according to the needs of teachers, PD activities are also needed in reform processes. While designing PD activities in this process, it is important to identify the knowledge and skills that teachers will need or the aspects that need to be developed for the success of the reform.

Barriers for PD

While creating opportunities for effective PD, barriers for access to PD should also be considered. However, Darling-Hammond et al. (2009) stated that many teachers do not have access to qualified PD activities. PD by its nature creates opportunities for teachers to be responsible for professional learning and practice, but it also brings new demands to school administrators and education policymakers (Kedzior & Fifield, 2004). In this context, The Irish Council for Education (TCI) considers commitment to PD a responsibility and access a right (King, 2016). Such an approach makes policy development necessary for barriers for participation in PD.

Kedzior and Fifield (2004) classify barriers for teachers' participation in PD under five categories. These are the structure of PD and teachers' time, the content of PD, the school factor, the district factor and the cost. In a national study conducted by Can (2019), barriers for PD are classified as legal, pedagogical, managerial and social reasons. In addition, according to the teachers who participated in the research (Can, 2019), lack of career development of teachers, lack of purpose and motivation in teachers, uncertainty in education policies, inadequate teacher employment, and constant change of education system are seen as the main barriers for PD. As a result, it can be said that the barriers for PD of teachers are caused by individual, organizational and educational policies, staff policies in particular. It is important to develop policies in different areas to eliminate these obstacles.

Turkey Context

Despite the impact of effective PD activities on teacher quality and ultimately student achievement, these issues were not adequately addressed by policy makers in Turkey (Bellibas & Gumus, 2016) and effective models for teachers' PD could not be developed. The Turkish education system has a hierarchical and centralized structure. It is also possible to see the reflections of the centralist approach in the PD of teachers. In this context, there is the Directorate General for Teacher Training and Improvement (DGTTI) within the Ministry of National Education (MoNE). Candidacy trainings for newly-employed teachers, in-service trainings, determining teacher qualifications and development of competencies are planned by DGTTI. In Turkey context, in-service training plays an important role in teachers' PD in traditional terms. The needs are determined and in-service trainings are carried out taking into consideration the questionnaires applied to teachers and international evaluation results such as TALIS and PISA. According to Özdemir (2016), the most traditional forms of PD might be workshops that are typically applied in in-service training, short seminars and courses. These are often criticized in terms of being one-time activities, unrelated to teachers' needs and not providing continuity. Research conducted in Turkey for in-service training, there are positive research results that in-service training practices provide an increase in the knowledge of teachers (Önen, Mertoğlu, Saka, & Gürdal, 2009) and teachers consider in-service training as a tool for PD (Akyıldız, Yurtbakan, & Tok, 2019).

In addition to this, in-service trainings are usually carried out during the education-training period rather than summer vacation, as the participation will be less. However, this situation makes it difficult for teachers to participate in in-service trainings, and causes problems in the training of the program in the classroom of the teachers participating in the training.

In different research, it is reported that in-service trainings are useless/ insufficient, the people who are in charge of these trainings are unqualified, these trainings are just a kind of information transfer, their content is not well structured, they are short-lived and cannot be put into practice as a PD application due to their inefficiencies (Sıcak & Parmaksız, 2016; Uçar & İpek, 2006; Uştu, Taş, & Sever, 2016; Yalçın İncik & Akbay, 2018). Considering the current research results, it can be said that in-service training practices in Turkey do not have a desirable effect on the PD of teachers. Needs are the basis of motivation. It is clear that PD programs that are not geared towards the needs of teachers and not designed for practice cannot serve the purpose.

Another practice considered as a form of PD in the Turkish Education System is professional trainings held for a period of two weeks immediately after the closing of the schools and before they are re-opened. In these trainings, teachers generally share their opinions about teaching methods and techniques, teaching materials, curriculum and attainment, PD classroom management and academic achievement (DGTTI, 2019). This application is an opportunity to make plans and evaluations and to share experiences in collaboration. In the practices for the evaluation of these programs, which are also called vocational seminars (Kahyaoğlu & Karataş, 2019; Türker & Tok, 2018), it was reported that the teachers see these programs as dysfunctional and that they describe them as a waste of time. In addition, teachers have stated that these programs can be instructive and they can contribute to PD with good planning. Besides, in Turkey, some regulatory mechanisms in the form of meetings for teachers have been mandated by the Ministry of National Education (MoNE) in order to create learning communities and encourage inclusion. Thus, teachers can share and discuss effective practices applied in their classrooms (Bellibas, Bulut, & Gedik, 2017). In schools, time and financial resources are needed to develop such opportunities into an effective PD tool. In addition, increasing the collaborative learning culture and teacher motivation at school will support such structures.

Teachers have an important role in the success of educational reforms. In order for reform initiatives to be successful, PD of teachers should be supported in the related field. As a matter of fact, the 2023 Education Vision Document declared by the Ministry of Education in 2019 highlighted the key roles of teachers and teacher qualifications in implementing the reforms. With this declaration, it is planned to make postgraduate education compulsory for the PD of teachers, to reconsider career steps, and to implement cooperation with universities and non-governmental organizations. Within the scope of "2023 Education Vision", various attempts have been made to motivate teachers across the country and raise awareness through conferences and seminars. However, structural arrangements and practices to improve teachers' professional knowledge and skills have not been implemented yet.

TALIS 2018

The International Teaching and Learning Survey (TALIS), conducted by the OECD for the purpose of evaluating education systems and educational policies, was held in 2018 for the third time. School principals and teachers from different school levels (primary, secondary and high schools) from 48 countries participated in the study (OECD, 2019a). Results for overall assessment and PD dimension of Turkey for TALIS-2018 have been summarized as follows (OECD, 2019a; TEDMEM, 2019):

In OECD countries and their economies, the percentage of teachers who have participated in at least one PD activity in the last 12 months is 94.5%, whereas in Turkey this rate is 93.6%.

As in OECD countries and their economies (OECD average 94%), in Turkey (86%) the most common PD activity attended by teachers is in-service training.

Among OECD countries and economies, and in Turkey, teachers report that the most preferred feature in effective PD activities is activities based on teachers' prior knowledge.

Among OECD countries and economies, teachers need education most in the field of education of students with special needs (22.2%), whereas in Turkey teachers need PD in the field of communication with people from different cultures and/or countries.

Among OECD countries and economies, the biggest barrier for PD for teachers is the conflict of PD activities with working hours (54.4%), whereas in Turkey (68.7%) there is not enough incentive to participate in PD activities.

In the literature, there are intense criticisms of top-down PD activities that are prepared in a standard way without taking the individual needs of teachers into account. In this context, it is important to consider some differences when planning PD activities. This research aims to determine the PD activities that teachers participated, PD needs of teachers and barriers for PD according to the data obtained from TALIS 2018 Turkey report. In addition, variation by seniority in the relevant fields has also been studied.

Methodology

Research Model

In this study, it is aimed to determine teachers' PD orientations, PD needs and the barriers for PD. The study was designed in screening model. The screening model is a research model that aims to describe a situation which is in the past or still exists (Karasar, 2007).

Work Group

The study group of the research consists of 15,498 teachers who participated in TALIS 2018 survey from Turkey. 3,204 of the teachers are primary school

teachers, 3952 of them are secondary school teachers and 8342 of them are high school teachers. Information about the participants is shown in Table 1.

Table 1. Demographic Data of the Participants

		Elementary School		**Secondary School**		**High School**		**Total**	
Variable		**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Gender	Woman	2,074	64.7	2,286	57.8	3,834	46.0	8,194	52.9
	Man	1,130	35.3	1,666	42.2	4,508	54.0	7,304	47.1
Seniority	5 years and under	286	8.9	970	24.5	1,530	18.3	2,786	18.1
	6 years and above	2,886	90.1	2,956	74.8	6,774	81.2	12,616	81.9
	Missing value	32	1.0	26	0.7	38	0.5	96	0.6

Data Collection Tool

TALIS 2018 (Teaching and Learning International Survey) teacher questionnaire was used as data collection tool in the study. The questionnaire consists of 10 sections: "Background and Qualification, Current Work, PD, Feedback, Teaching in General, Teaching in the Target Class, Teaching in Diverse Environments, School Climate, Job Satisfaction and Teacher Mobility". In the current study, the answers given to the questions of seniority in the "Background and Qualification" section and the participation in the PD activities, PD needs and barriers for PD from the "PD" section, are examined.

Seniority

In TALIS 2018 teacher survey, seniority data was collected with the question "Year (s) working as a teacher in total" in 11 (a). In the survey, teachers were not given options and asked to write down their tenure (years of seniority) themselves. These data, which are continuously variable within the scope of the research, were categorized by dividing them into two different seniority groups as 5 years and less and 6 years and more.

Participating in PD Activities

The data about teachers' participation in PD activities in the last 12 months was collected by question 22 of the questionnaire with the question "During the last 12 months, did you participate in any of the following PD activities?"

Needs for PD

Teachers' PD needs were tried to be determined with 14 sub-questions related to the root question "For each of the areas listed below, please indicate the extent

to which you currently need PD". "Knowledge and understanding of my subject field (s)", "ICT (information and communication technology) skills for Teaching", "Approaches to individualized learning" are sub-question samples. Each question can be scored from 1 (No need at present) to 4 (High level of need).

Barriers for PD

The barriers for PD of teachers are tried to be determined with seven 14 sub-questions related to the root question "How strongly do you agree or disagree that the following present barriers for your participation in PD?" Each question can be scored from 1 (Strongly disagree) to 4 (Strongly agree).

Data Analysis and Limitations

Depending on the research questions, Chi-square analysis was employed to test whether categorical variables (seniority and participation in PD activities) are connected. For the tests to be used in examining the PD needs and obstacles to PD in terms of seniority, the skewness-kurtosis coefficients were examined. Since the coefficients were found to be between -2 and +2 for each question (See Table 4 and Table 6), t-test and Anova tests, which are parametric tests, were used. In the analysis, missing data was evaluated for each question and calculations were made separately. Therefore, there are differences in the number of samples among the questions.

Results

Participating in PD Activities

PD activities that teachers have participated in the last 12 months are given in Table 2. According to the data in Table 2, teachers mostly contribute to their PD by participating in course/seminar activities (N=12,947; 83.5%). Afterwards, reading professional literature (N=10,936; 70.6%) is another PD activity preferred by teachers. Teachers were engaged in peer observation/self-observation the least (N=3,008; 19.4%). Apart from these, they participated in observation visits to business premises, public organisations, or non-governmental organisations (N=3,355; 21.6%) and observation visits to other schools respectively.

Table 2. Participating PD Activities Last 12 Months

During the last 12 months, did you participate in any of the following PD activities?	**Yes**		**No**		**Rank**
	N	**%**	**N**	**%**	
Courses/seminars attended in person	12,947	83.5	2,404	15.5	1
Online courses/seminars	6,811	43.9	8,491	54.8	4
Education conferences where teachers and/or researchers present their research or discuss educational issues	8,474	54.7	6,840	44.1	3
Formal qualification programme (e.g., a degree programme)	4,945	31.9	10,367	66.9	7
Observation visits to other schools	3,620	23.4	11,704	75.5	8
Observation visits to business premises, public organisations, or non-governmental organisations	3,355	21.6	11,956	77.1	9
Peer and/or self-observation and coaching as part of a formal school arrangement	3,008	19.4	12,294	79.3	10
Participation in a network of teachers formed specifically for the PD of teachers	6,413	41.4	8,874	57.3	5
Reading professional literature	10,936	70.6	4,383	28.3	2
Other	5,394	34.8	8,863	57.2	6

The relationship between teachers' participation in PD activities in the last 12 months and seniority is given in Table 3. Chi-Square analysis was used to determine the relationship between seniority and PD activities attended by teachers in the last 12 months. It has been found that there is no significant relationship between participation in a network of teachers formed specifically for the PD of teachers and seniority ($x^2(1)=3,456$; $p>0.05$). A significant relationship was found at the level of 0.05 between all other activity areas and seniority. The "observed" and "expected" frequency values were examined to determine which group the relationship favors the most. It can be said that, teacher with low seniority are more likely to participate in the activities "Courses/seminars attended in person", "Formal qualification programme (e.g., a degree programme)", "Observation visits to other schools", "Observation visits to business premises, public organisations, or non-governmental organisations" compared to senior teachers. On the other hand, senior teachers prefer "Online courses/seminars", "Education conferences where teachers and/or researchers present their research or discuss educational issues" and "Reading professional literature" activities more compared to teachers with low seniority.

Table 3. Participating in PD Activities Last 12 Months in Terms of Seniority

Year of Sen.	Participating in PD activities	Yes		No			
		C.	Ex.C	C.	Ex.C	Total	
0-5	Courses/seminars attended in person	2374	2325	382	430	2756	$x^2_{(1)}=7.882$ $p<0.05$
6+		10533	10581	2007	1958	12540	
0-5	Online courses/seminars	1076	1223	1672	1524	2748	$x^2_{(1)}=38.92$ $p<0.05$
6+		5711	5563	6789	6936	12500	
0-5	Education conferences where teachers and/or researchers present their research or discuss educational issues	1464	1523	1288	1228	2752	$x^2_{(1)}=6.338$ $p<0.05$
6+		6983	6923	5524	5583	12507	
0-5	Formal qualification programme (e.g., a degree programme)	1007	889	1747	1864	2754	$x^2_{(1)}=27.81$ $p<0.05$
6+		3923	4040	8581	8643	12504	
0-5	Observation visits to other schools	724	648	2027	2102	2751	$x^2_{(1)}=13.92$ $p<0.05$
6+		2877	2952	9641	9565	12518	
0-5	Observation visits to business premises, public organisations, or non-governmental organisations	680	601	2071	2149	2751	$x^2_{(1)}=16.13$ $p<0.05$
6+		2654	2732	9851	9772	12505	
0-5	Peer and/or self-observation and coaching as part of a formal school arrangement	760	540	1989	2208	2749	$x^2_{(1)}=135.9$ $p<0.05$
6+		2236	2455	10263	10043	12499	
0-5	Participation in a network of teachers formed specifically for the PD of teachers	1110	1153	1638	1594	2748	$x^2_{(1)}=3.456$ $p>0.05$ ns[a]
6+		5284	5240	7200	7243	12484	
0-5	Reading professional literature	1889	1966	864	786	2753	$x^2_{(1)}=12.90$ $p<0.05$
6+		9012	8934	3499	3576	12511	
0-5	Other	1028	966	1528	1589	2556	$x^2_{(1)}=7.786$ $p<0.05$
6+		4342	4403	7310	7248	11652	

Sen=Seniority; a=ns means not significant C.: Count Ex. C: Expected Count.

Needs for PD

The results of descriptive statistics of teachers' PD needs are given in Table 4. Examining the results of the descriptive statistics of teachers' PD needs, it can be said that teachers need support in communicating with people who come from different cultures and countries ($\bar{x}$=2.53). In addition, teachers need more PD in the fields of teaching in multicultural or multilingual environments ($\bar{x}$=2.43) and teaching students with special needs ($\bar{x}$=2.37) compared to other fields. The

minimum PD needs of teachers are subject knowledge and understanding of subject fields ($\bar{x}$=1.58), pedagogical competence ($\bar{x}$=1.63) and student behaviors and classroom management ($\bar{x}$=1.69).

Table 4. Needs for PD

Needs for PD	**n**	**$\bar{x}$**	**S**	**Skew.**	**Kurt.**	**Rank**
Knowledge and understanding of my subject field(s)	15,317	1.58	0.819	1.300	0.852	13
Pedagogical competencies in teaching my subject field(s)	15,293	1.70	0.846	0.975	0.059	10
Knowledge of the curriculum	15,291	1.63	0.858	1.188	0.463	12
Student assessment practices	15,257	1.72	0.876	0.983	-0.005	9
ICT (information and communication technology) skills for teaching	15,237	2.09	0.945	0.369	-0.907	4
Student behaviours and classroom management	15,267	1.69	0.894	1.098	0.177	11
School management and administration	15,200	1.92	0.999	0.667	-0.810	7
Approaches to individualised learning	15,239	2.06	0.971	0.450	-0.895	5
Teaching students with special needs	15,220	2.37	1.041	0.084	-1.189	3
Teaching in a multicultural or multilingual setting	15,170	2.43	1.123	.037	-1.380	2
Teaching cross-curricular skills (e.g.,creativity, critical thinking, problem solving)	15,190	2.00	0.956	0.540	-0.778	6
Analysis and use of student assessments	15,200	1.83	0.910	0.774	-0.419	8
Teacher-parent co-operation	15,233	1.70	0.933	1.108	0.097	10
Communicating with people from diff. cultures or countries	15,215	2.53	1.131	-0.087	-1.383	1

Skew.=Skewness; Kurt=Kurtosis.

The results of the examination of the PD needs of teachers according to seniority are given in Table 5. According to Table 5, it can be said that teachers with low seniority have higher PD needs than teachers with high seniority in all sub-fields ($p<0.05$). Although theoretical information is given to prospective teachers in teacher education, teaching is also a profession in which learning continues in practice. For this reason, teachers with high seniority increase their skills both through their experiences during the actual teaching practices and the educational activities they participate in. Therefore, teachers with low seniority can be expected to feel the need for PD more.

Table 5. Teachers needs for PD according to Seniority

Needs for PD	**Sen. (Year)**	**n**	**x̄**	**s**	**p**
Knowledge and understanding of my subject field(s)	0-5	2,747	1.75	0.867	0.00
	6 +	12,515	1.54	0.805	
Pedagogical competencies in teaching my subject field(s)	0-5	2,744	1.86	0.871	0.00
	6 +	12,494	1.67	0.837	
Knowledge of the curriculum	0-5	2,743	1.77	0.895	0.00
	6 +	12,493	1.60	0.847	
Student assessment practices	0-5	2,732	1.84	0.899	0.00
	6 +	12,471	1.69	0.868	
ICT (information and communication technology) skills for teaching	0-5	2,731	2.14	0.958	0.00
	6 +	12,451	2.08	0.942	
Student behaviours and classroom management	0-5	2,737	1.89	0.936	0.00
	6 +	12,475	1.64	0.878	
School management and administration	0-5	2,734	2.18	1.029	0.00
	6 +	12,411	1.86	0.983	
Approaches to individualised learning	0-5	2,732	2.20	0.976	0.00
	6 +	12,452	2.03	0.967	
Teaching students with special needs	0-5	2,735	2.52	1.001	0.00
	6 +	12,430	2.33	1.046	
Teaching in a multicultural or multilingual setting	0-5	2,726	2.56	1.070	0.00
	6 +	12,390	2.40	1.133	
Teaching cross-curricular skills (e.g.,creativity, critical thinking, problem solving)	0-5	2,729	2.08	0.942	0.00
	6 +	12,407	1.98	0.959	
Analysis and use of student assessments	0-5	2,733	1.94	0.915	0.00
	6 +	12,412	1.81	0.908	
Teacher-parent co-operation	0-5	2,734	1.86	0.976	0.00
	6 +	12,445	1.67	0.921	
Communicating with people from diff. cultures or countries	0-5	2,736	2.60	1.105	0.00
	6 +	12,425	2.52	1.137	

Sen: Seniority.

Barriers for PD

According to the teachers, results of the descriptive statistics regarding the barriers for participation in PD activities are given in Table 6.

Table 6. Barriers for PD

Barriers for PD	**n**	**x̄**	**S**	**Skew.**	**Kurt.**	**Rank**
I do not have the pre-requisites (e.g., qualifications, experience, seniority)	15,257	1.49	0.697	1.430	1.785	7
PD is too expensive	15,252	2.30	0.848	0.152	-0.611	5
There is a lack of employer support	15,179	2.56	0.892	-0.142	-0.721	2
PD conflicts with my work schedule	15,179	2.55	0.867	-0.158	-0.643	3
I do not have time because of family responsibilities	15,250	2.25	0.921	0.190	-0.856	6
There is no relevant PD offered	15,218	2.52	0.870	-0.037	-0.677	4
There are no incentives for participating in PD	15,277	2.83	0.904	-0.451	-0.534	1

Skew.=Skewness; Kurt= Kurtosis.

According to teachers, the biggest barriers for participating in PD activities are the lack of any incentives ($\bar{x}$=2.83) and lack of employer support. In addition, incompatibility with the work schedule ($\bar{x}$=2.55) and lack of relevant PD activity ($\bar{x}$=2.52) can also be seen as other important factors. According to teachers, not having pre-requisites ($\bar{x}$=1.49) and not having time because of family responsibilities ($\bar{x}$=2.25) are the barriers that affect the participation in PD activities the least.

The results of the examination of the barriers for PD according to seniority are given in Table 7.

Table 7. Barriers for PD According to Seniority

Barriers for PD	**Sen. (Year)**	**n**	**x̄**	**s**	**p**
I do not have the pre-requisites (e.g., qualifications, experience, seniority)	0-5	2,746	1.62	0.716	0.00
	6 +	12,456	1.45	0.690	
PD is too expensive	0-5	2,745	2.38	0.821	0.00
	6 +	12,451	2.28	0.853	
There is a lack of employer support	0-5	2,725	2.63	0.867	0.00
	6 +	12,398	2.54	0.897	
PD conflicts with my work schedule	0-5	2,728	2.60	0.848	0.00
	6 +	12,396	2.53	0.870	
I do not have time because of family responsibilities	0-5	2,744	2.12	0.884	0.00
	6 +	12,450	2.28	0.927	
There is no relevant PD offered	0-5	2,732	2.56	0.870	0.01
	6 +	12,430	2.51	0.870	
There are no incentives for participating in PD	0-5	2,743	2.80	0.889	0.10
	6 +	12,479	2.84	0.907	

Sen=Seniority.

According to Table 7, teachers' thoughts about the absence of incentives for participation in PD activities are similar and do not differ significantly ($p>0.05$). Senior teachers think that they cannot find time for PD because of their family

responsibilities, compared to junior teachers. In other barriers for PD, the perception of teachers with low seniority is higher. In other words, as seniority increases, the perception of not having prerequisites, the thought that PD is too expensive, lack of employer support, conflicts with work schedule and lack of relevant PD activity decrease.

Discussion

In the current study, teachers' participation in PD activities, PD needs and barriers for PD were examined in Turkey sample based on TALIS 2018 data. As a result of the research, it was found that teachers attended the courses and seminars individually. In-service training courses and seminars are organized by the Ministry of National Education and provincial directorates of national education for teachers in Turkey. Since participation in these courses is mandatory, it can be said that teachers participate in these activities at most. As a traditional PD practice, there is an intense criticism of in-service training in the literature. It is reported that such programs are inefficient, educational staff are not sufficient, that they are only for information transfer purposes and are not based on interaction (Uştu, Taş, & Sever, 2016; Yalçın İncik, & Akbay, 2018). In Turkey, in-service training is far from meeting the specific needs of schools or teachers. In-service training is usually conducted in the form of presentations and they are generally given to crowded teacher groups as a presentation. Furthermore, there are no effective support systems that allow teachers to participate in different PD practices. For this reason, in-service training is a preferred choice for teachers. In international comparison studies (Maya & Taştekin 2018; Özkan, Özkan, & Güvendir, 2019) of the highly successful countries in student achievement, PD activities are organized according to the needs of teachers, school and district. PD activities in these countries are mostly at local level and teachers are active in their professional practices. In a national study conducted by Bellibas and Gumus (2016), teachers believe that the quality of PD provided to teachers is less related to teaching practice. Researchers underlined that this situation may also be related to student achievement. Yirci (2017) stated that the most common activities performed by teachers for PD are reading books/journals, colleague assistance and using mass media. In addition, it was found that teachers attend trainings/seminars/ conferences and carry out academic studies.

The type of PD activities has different effects on teachers in gaining knowledge and skills and transferring this knowledge into practice in the classroom setting. In the study conducted by Kennedy (2016), in which he synthesized research results on the impact of teachers' PD on student achievement, it was reported that practices that lead teachers to think and practices that teachers actively participated in are more useful. In a similar study, Borko (2004) also found that practices that offer cooperation opportunities are more effective. Furthermore, the OECD (2019b) draws attention to activities that will be placed in daily practices rather than mandatory policies as the only way to participate in continuous PD.

As a result of the research, significant differences were found in PD activities that teachers attended in terms of seniority. Teachers with less years of seniority participate more in individual courses and seminars than teachers with more seniority. As a matter of fact, school visits, observations and trips to various institutions are organized within the scope of Candidate Teacher Training Program in Turkey. Therefore, organizing more PD activities for new teachers may have caused this differentiation. Senior teachers, on the other hand, prefer online courses/seminars more compared to teachers with low seniority. Horzum, Albayrak, and Ayvaz (2012) found that senior teachers have higher beliefs in in-service training activities given through distance education compared to new teachers. It can be said that senior teachers may prefer online courses on the grounds of work-family life balance. Additionally, as seniority increases, so does the habit of reading books for PD. Richter et al. (2011) associate senior teachers' reading habits with their being more self-oriented individuals. In a synthesis research conducted by Kyndt, Gijbels, Grosemans, and Donche (2016), seniority, career stage and age were found to be the precursors to participation in informal learning activities empirically. Richter et al. (2011) concluded that there is a negative relationship between participation in in-service trainings and seniority, and that informal learning activities showed different patterns throughout the teaching career. As a result, it can be concluded that the relationship between the seniority of teachers and the PD activities they participate in will be shaped by different trends in the country's PD policies, teaching/learning practices and career stages.

According to the results of the research, it can be said that teachers mostly need PD in communication with people from different cultures and countries, and teaching in multicultural and multilingual educational environments. Knowledge of the subject field, curriculum knowledge, school management and pedagogical competence are the areas where teachers need PD the least. From this perspective, it can be considered that teachers need development in a cultural context. The subjects of PD needs of teachers may change depending on economic, technological and social developments. In a study conducted by Özdemir (2013) on primary and secondary school teachers, teachers reported their needs as new teaching approaches, methods and techniques, subject field, use of instructional technologies, teaching students with special needs, recognition of student psychology, measurement and evaluation. There has been a significant increase in the number of refugees and migrants coming to Turkey, especially after the latest developments in the Middle East in recent years. Within the scope of inclusive education, the children of refugee and immigrant families receive education with other students. These developments increase the needs of teachers' multicultural educational skills.

When PD needs are examined according to seniority, it is observed that the perception of PD needs decreases as seniority increases. Candidate teachers are provided with theoretical knowledge in teacher education. However, teaching is a profession in which learning goes on continuously in practice. For this reason, teachers with high seniority increase their skills both through their experience in teaching practices and through the educational activities they participate in during

the process. Therefore, teachers with low seniority can be expected to feel more in need of PD. In the study conducted in the USA sample by Zhang, Shi, and Lin (2020), the new teachers need more PD than senior teachers in the fields of "knowledge and understanding of their subject field(s)", "pedagogical competencies in teaching their subject field(s)", "knowledge of curriculum", "knowledge of teaching for diversity (including: individualized learning, teaching students with special needs, teaching in a multicultural or multilingual setting, teaching cross-curricular skills, developing cross-occupational competences for future work or future studies)" and "student behavior and classroom management". On the other hand, senior teachers stated that they needed more assistance in the fields of "new technologies in work place", "information and communication technology skills for teaching" as well as "implementation of national/state curriculum standards or Common Core standards".

According to the teachers, the lack of any incentives for participation in PD activities is the first barrier. The barriers that have the least impact on teachers' participation in PD activities are family responsibilities, perceiving these activities as expensive and not having pre-requisites. From this point of view, it can be suggested that individual factors have the least impact on participation in PD activities. On the other hand, managerial factors such as the lack of employer support and incentives have the most impact. In TALIS-2008, factors such as teachers' family responsibilities, incompatibility with the work schedule and teachers' thinking that there is no PD activity suitable for them were seen as barriers for PD (Büyüköztürk, Akbaba Altun, & Yıldırım, 2010). Research findings on barriers for PD draw attention to time, support and resources (Can, 2019; Heystek & Terhoven, 2015). Appova and Arbaugh's (2018) study in America found that the lack of scholarship/resources, which are generally not available for teachers to follow their PD outside of contract hours, reduces teachers' learning motivations. According to Yirci (2017), the biggest barriers for PD of teachers are the bureaucratic structure and the factors arising from the teachers themselves. Economic reasons, lack of resources and materials are also barriers for PD.

In terms of seniority, the perception that family responsibilities hinder PD is higher among teachers with high seniority. PD is influenced by the obligation to balance work and family life (McIlveen et al., 2019). Senior teachers are more likely to experience the hardships such as work-family conflicts. Teachers with low and high seniority have similar perceptions about not being promoted to participate in PD activities. In all other fields, it can be said that new teachers have higher perceptions. In the research conducted by Zhang, Shi, and Lin (2020), new and senior teachers stated that barriers for PD are "There are no incentives for participating", "PD conflicts with my work schedule", "I do not have time because of family responsibilities"; they stated that "PD is too expensive/unaffordable", "Poor quality of PD", "There is no relevant PD offered", "There is a lack of employer support" and "I do not have the prerequisites". Senior teachers have higher averages than new teachers in the fields of "PD is too expensive/ unaffordable", "I do not have time because of family responsibilities" and "There are no incentives for participating". New teachers, on the other hand, have a higher average in the field of "I do not have the pre-requisites" compared to senior teachers.

Conclusions and Suggestions

The results of the research pointed out that the relevant policies are effective in the participation of teachers in different PD activities. Furthermore, it was determined that the needs of PD differed by seniority and type of school; the perception of barriers for PD differed by seniority and gender. In this context, the following suggestions have been made for the continuous PD of teachers:

Within the scope of PD, compulsory in-service training policies direct teachers to activities in this field. Such policies may limit the participation of teachers in mentoring, coaching, peer support and practice-oriented activities that are characterized as effective PD activities in the literature. Policies to support effective PD activities can be developed and such practices can be given place within school structures.

When planning PD activities, different types of PD options can be offered according to seniority and preferences.

The results of the research point out that changes in the social sphere can also lead to various teacher needs. Therefore, PD needs of teachers can be determined by considering the developments in different fields.

The PD needs of teachers differ according to seniority. Individual factors, school type and conditions can be taken into account while determining the needs.

The results point to the lack of resources, support and policy as barriers for PD. It can be suggested that policies, support structures and resources are needed to facilitate teachers' participation in PD activities. In this context, such policies can also be associated with incentive and reward systems, such as an increase in the career path of teachers.

Perceptions of teachers about the barriers of PD differ by seniority. Within the scope of PD, online activities, especially for senior teachers, can be included, and PD activities that can relate to their daily work schedule can be planned. The beginning teachers' perceptions of the barriers in different categories are high. For beginning teachers, the early years are important for PD. More flexible practices on workload can be implemented for PD over time.

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