Educating Students at Teacher Education Faculties in Art Fields (Visual Arts and Music) in the Online Environment

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Abstract. During the crisis caused by the COVID-19 pandemic, the instruction at faculties in Croatia was realised mostly online. Online teaching exclusively has proven inadequate due to the specificities of realising art courses regarding their practical part normally implemented in specialised art studios and music cabinets, that provide special equipment, tools and means, and due to the importance of monitoring and supporting students by their mentors in the creative learning process itself. Students' didactic-methodical practice with children in preschools and schools can be realized in a quality manner only through direct work in their natural surroundings where, besides teaching the subject area, social contact and the preschool teacher/child and teacher/student interactions play an important role. This research was carried out at faculties of teacher education in the academic year 2020/2021. The research goal was to determine the satisfaction with online instruction in art courses (visual arts and music) and technical readiness of students at teacher education faculties. The participants evaluated the quality of studying and support in the online environment in the art fields. Research results have shown that students of teacher education are satisfied with the implementation of art practice in online teaching as well as with their own work results. As was manifested, they are not satisfied with didactic-methodical practice nor regard themselves competent enough to perform art activities with early and preschool age children independently. The participants have expressed their satisfaction with the feedback from teachers, which positively influenced their motivation and encouraged them to work further.

Keywords: Art field (visual arts and music) · Faculty of teacher education · Satisfaction with the quality of online teaching · Technical readiness · Support to students

1 Introduction

Nowadays we live in the information age in which information, technology and knowledge play the central role. New technologies and new media govern all activities, economy and education. Creating knowledge is no longer tied exclusively to formal environment such as schools and faculties but to e-learning, online education and web learning,

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which are increasingly present. The implementation of information and communication technology in the learning/teaching process entails carefully selected digital contents responding with the context of the course and the teaching activities. Digital contents should be founded on quality instructional design, respecting the principals of cognitive learning theory, information processing theory, cognitive load theory and the integrative model of understanding text and image [24]. Digital technology can make the education process more efficient and economic [3, 35], but the improvement of the education process is not the result of solely technology [14]. Many studies point to the fact that students are aware of both positive and negative side of instruction in the online environment [21, 25]. Decoding and understanding these positive and negative sides, especially in the time marked by the COVID-19 pandemic, can help professors in creating new educational policy, i.e. strategies for a more efficient realisation of classes, ensuring undisturbed learning process for the students. Greater flexibility concerning time and space is regarded positive by students [11]. They also consider as benefits the availability of teaching materials [32] and independent learning pace and financial feasibility, because they do not have to commute to university [16]. The research in the field has also confirmed that, when evaluating the individual learning process in digital environment, students position in the first place the possibility to choose their own learning tempo and the opportunity to decide between different learning strategies [9, 22, 30]. According to the students' opinions, the principal flaw of online teaching is lack of socialisation [1, 7, 16]. Despite the availability of online forums, electronic mail and chat rooms, students express the feeling of loneliness [10]. One of the mentioned faults of online teaching is insufficient personal contact with other students and mentors [10, 20]. Social isolation causes inadequate learning motivation in students, which is an important factor for success in web learning [18]. Besides, technical difficulties are also very often mentioned in online surroundings, whether be it insufficient technical infrastructure or deficient students' technical knowledge [2, 15]. Croatian students consider online teaching is flexible with regard to time and place, and it provides faster information exchange. Equally so, they are of the opinion they possess the technical knowledge and skills for online classes [16].

2 Methodology

2.1 Research Sample

During the crisis caused by the COVID-19 pandemic, courses at Croatian facultieswere carried out mostly online. The transition from contact learning and teaching, which entails direct professor-student contact, to distant teaching implemented exclusively with the use of ICT has pointed out some drawbacks, especially in the art field (visual arts and music). The realisation of classes in art fields has its specificities, such as specialized art studios and music cabinets, equipped with adequate tools and means. When compared to contact teaching, performing classes and monitoring and supporting students by their mentors have not proven to be efficient enough in the online environment. Furthermore, due to social contacts and interaction between the participants, the only way of implementing the practical part of teaching methodology courses with children in kindergartens and pupils in schools in a quality manner is through direct work in their

natural surroundings. The goal of this research was to establish students' satisfaction with online instruction in art courses (visual arts and music), and the level of technological readiness, i.e. competences of teacher education students. Research participants have assessed the quality of studying and support in the online environment in the art fields.

The following hypotheses ensue from the above:

H1: There are differences in the satisfaction with online classes considering the knowledge on e-learning technologies.

H2: It is assumed that teacher education students (preschool teachers, teachers) are not satisfied with online teaching within the art courses (visual arts and music).

H3: It is assumed that teacher education students are not satisfied with the realisation of teaching methodology courses in the online environment.

2.2 Research Sample

The research was carried out in the academic year 2020/2021. It included students of undergraduate studies of early preschool education (N = 215) and teacher education students (N = 126) at the faculties in Zagreb and Rijeka. In total, 341 students participated in the study. 10,3% of the participating students attended online courses for one semester, 37,2% for two, 47,5% attended online classes for three semesters, and 5% of them had online classes for all four semesters.

2.3 Instrument

An author questionnaire was designed for the needs of the research. The questionnaire entailed objective questions of dichotomous nature (type of study, year of study) and the questions of subjective nature, wherein the participants expressed their own opinions on a five-degree scale about the set claims. Likert scale and other ordinal scales for expressing degrees of agreement with the claims were used. The instrument's validity was determined via the procedure of main components factorisation, and it yielded 5 factors with characteristic roots over 1, which together explain 60,02% of the variance (KMO = 0,872; Bartlett's test: p = 0,000). There are five factors in total based on 25 claims. The content of the first factor regards the advantages of online classes, and it entails seven claims. The factor loadings for this factor are in range from 0,44 to 0,85. The second factor regards the technological conditions of online classes, for which the factor loadings are in range from 0,29 to 0,66 (Inter – Item correlation is 0,35). The third factor, i.e. satisfaction with the quality of classes, entails 4 claims, and the factor loadings are in range from 0,73 to 0,86. The fourth factor is quality of instruction in art courses based on 5 claims, and the factor loadings are in range from 0,74 to 0,89. The fifth factor is the quality of support based on five claims, with factor loadings from 0,33 to 0,87. The coefficients of internal consistency for each obtained factor are in range from satisfactory to high. For the factor advantages of online classes, it is $\alpha = 0{,}84$, and for technological conditions of online classes $\alpha = 0{,}62$ (Inter - Item correlation je 0,35), for satisfaction with the quality of classes $\alpha = 0{,}84$, for the quality of instruction in art courses $\alpha = 0{,}89$ and for the quality of support for students $\alpha = 0{,}76$.

2.4 Data Analysis and Statistical Processing

The gathered data were processed in the statistical programme SPSS 21.0. For descriptive statistics of nominal and ordinal variables, the following measures were calculated: frequencies (f), relative frequencies (%), arithmetic mean (M), dominant value (mode), median (Md), standard deviation (SD), and the measures of the distribution's normality (skewness, kurtosis). The normality of the distribution was checked with Kolmogorov-Smirnov test, and parametric Student's t-test was used for testing the hypothesis.

3 Interpretation of the Results

3.1 Advantages of Online Teaching

The participants have assessed classes in the online environment according to a five-degree scale and it was shown that online classes, according to their opinions, have many positive sides. More than half of the participants, 60,4%, consider they have better availability of the materials (M = 3,70; SD = 1,18) because by transferring to online classes, teachers have enriched the learning contents with a series of tools the students could use. 79,8% of the students emphasize the advantage of flexibility in choosing the place and time for learning (M = 4,18; SD = 1,00), and 66,9% of them consider that the exchange of information and knowledge with other students is swift (M = 3,96; SD = 1,02). This way of learning and teaching presents a challenge for the students (72,8%) and the opportunity to improve their digital competence (M = 4,01; SD = 0,96). On the other hand, lower assessments can be observed on the variable *realisation of better learning outcomes and acquiring knowledge in online class* (M = 2,74; SD = 1,15), agreed upon by 43,7% of the participant, whereas, 31,7% partially agrees with it. As little as 23,4% of the participants feels such form of classes encourages active participation. 28,4% of the participants consider online environment diminishes the teacher's role, while 40,2% of them disagree with this claim, and one third of the participants (31,4%) partially agrees with it (M = 2,83; SD = 1,27). On some variables, the participants do not take a determined stand, but are in doubt. For example, 37, 9% does not agree, and 33,4% partially agrees that online learning contributes to faster content matter acquisition (M = 2,90; SD = 1,22). Almost a third of the students (32,9%) consider online teaching enhances their creativity and desire for further exploration (M = 3,00; SD = 1,20), whereas almost equal number, 34,3% of them, disagrees with the claim. 42,3% of the students do not feel that online classes are appropriate for the needs of today's students (M = 3,34; SD = 1,03).

3.2 Technological Conditions of Studying

In the online environment, it is important to own appropriate technological equipment for performing classes [6, 16, 23]. In this research, most students (87,1%) possess their own equipment necessary for active participation in online learning. It entails the knowledge on applying technologies of online learning. The success of learning and teaching depends on knowing how to apply online learning technologies. More than half of the students (61,6%) rate their own knowledge on online learning technologies as very

good (M = 3,59: SD = 0,58). Out of the tools needed for online classes, 95,9% of the participants used office tools and tools for working on the computer (operation system, e-mail, Internet, MS word, Excel, PowerPoint and others), while the least used were tools for cooperative work (blog, wiki…) (12,3%) and social networks (Facebook, Twitter, LinkedIn…) (22,9%).

The claim of basic informatics literacy being essential for online learning is agreed upon by 93% of the participants. 86,5% of them feel that the use of e-learning technology is necessary for online learning, as well as knowledge on digital tools for using and finding video and audio contents, and knowledge on digital tools for searching professional and scientific literature.

Within this research, hypothesis H1 was set presuming the existence of difference in students' satisfaction with online teaching with regard to their knowledge on e-learning technologies (see Table 1).

Table 1. Students' satisfaction with online classes and their knowledge on e-technologies (N = 341)

Knowledge in the field of online learning technologies' application		N	M	SD	T (df = 327)	p
Advantages of instruction in online environment	Good	115	3,40	0,70	-2,562	**0,011**
	Very good	214	3,62	0,79		
The quality of instruction in art courses	Good	115	3,34	0,98	1,478	0,140
	Very good	214	3,16	1,08		
Quality of support for students	Good	115	4,22	0,71	0,086	0,932
	Very good	214	4,21	0,70		
Satisfaction with the quality of instruction	Good	115	3,44	0,82	-4,179	**0,000**
	Very good	214	3,84	0,86		
Technological conditions of studying	Good	115	3,97	0,78	-4,168	**0,000**
	Very good	214	4,33	0,67		

$p \leq 0.05$

The results of the t-test show statistically significant differences in the arithmetic mean of the compared groups. The participants who know e-technologies better notice more advantages, are more satisfied with the quality of instruction and have good equipment, i.e. good technological conditions for studying. This *confirms* the hypothesis of the existence of differences in the satisfaction with online teaching considering the knowledge on e-learning technologies.

3.3 Quality of Support to Students

During online classes, an important role is played by support to students on behalf of their professors. A research [4] points to the problem of the lack of communication

between students and certain professors, and the lack of feedback. Students are isolated from each other in online class, and they need teacher support.

The participants feel that in online learning, feedback from the teacher is important because it motivates and encourages students to work (f = 88,2%; M = 4,49; SD = 0,77). 66,2% of the students consider the aspect of nonverbal communication lacking (M = 3,93M SD = 1,13). That organisation and economic time management is important in the online environment is agreed upon by 88,3% of the participants (M = 4,48; SD = 0,77), whereas 82,7% of the students feel that a lot of independent work is needed (M = 4,31; SD = 0,95). 68,9% of the students need additional motivation for online learning (M = 3,39; SD = 1,20). 61,6% of the students in total are satisfied with the given feedback about the realisation of assignments (M = 3,74; SD = 1,09).

3.4 The Quality of Teaching Art Courses

Art courses are an indispensable formative part of gaining professional competences of preschool teachers and teachers since visual art and music contents are an integral part of compulsory primary education in Croatia. Instruction of art courses is realised through theoretical courses, practical exercises and teaching methodology courses. Online classes have disabled undisturbed implementation of those forms of work that demand additional equipment or mentor approach in the course of practice.

In accordance, hypothesis H2 was set, which assumed that teacher education students (preschool teachers, teachers) are not satisfied with online classes in performing practice in art courses (visual arts and music). The results are presented in Table 2.

Table 2. The quality of online art courses teaching (N = 341)

	Mode	Md	M	SD	SK	KA
I am satisfied with the availability of class materials on digital platforms	4	4,00	3,86	0,98	-0,56	-0,08
I am satisfied with the quality of class content's presentation via the use of various electronic tools	4	4,00	3,89	0,93	-0,48	-0,13
I am satisfied with mastering the assigned practical exercises in Music course	5	4,00	3,91	1,13	-0,80	-0,14
I am satisfied with the mastery of assigned practical exercises in Art course	5	4,00	4,16	0,90	-0,79	-0,08
I am satisfied with the work results considering the invested time and effort in the realisation of visual art practice	5	5,00	4,31	0,92	-1,24	0,98
I am satisfied with the work results considering the invested time and effort in the realisation of music practice	5	5,00	4,25	1,03	-1,46	1,63

(*continued*)

Table 2. (*continued*)

	Mode	Md	M	SD	SK	KA
I am satisfied with the professor taking technical problems in online classes into consideration (poor sound, Internet connection, poor image, visual processing of class content…)	5	4,00	4,12	1,06	-1,16	0,74
I am satisfied with the realised individual communication with the professors (e-mail, forum, whats app…)	5	4,00	4,16	0,94	-0,99	0,47

The results presented in Table 2 show that students are satisfied with the quality of online teaching of art courses, both in visual arts and music field. They are also satisfied with the availability and quality of the teaching contents, with the mastery of the practical part of the course, and with teacher support and teacher-student communication. The basic purpose of teacher education faculties is to educate future preschool teachers and teachers for working with children. Hence, didactical courses are a fundamental part of teaching at teacher education faculties. Teaching methodology courses in certain educational fields at teacher education faculties in Croatia are realised at higher years of teacher education and early preschool education studies. The assessment of satisfaction with the implementation of teaching methodology courses in the art fields in the online environment has been done by students of the fourth and fifth year of their teacher education studies and the students of the second and third year of early and preschool education studies (N = 295). Less than half of the participants are satisfied with the quality of methodical readiness, i.e. acquiring competences for working in kindergarten or school (47,8%). *In the preparation and education for working with children, mentor, i.e. individual work with professors is necessary* is a claim deemed true by 61,9% of the participants, whereas a small number of them (8,5%) do not have a need for teacher's help in the preparation for working with children (8,5%). During the COVID-19 pandemic, the practical part of teaching methodology courses in kindergartens and schools has been organised under special conditions. The usual practice before the pandemic was that one students performed a methodical exercise, and the other colleagues (in groups up to 15 students) observed and evaluated the implemented activity, i.e. school lesson. The newly-created situation under COVID-19 measures has resulted with special measures in educational institutions as well, wherein only one student was allowed in class alongside a mentor preschool teacher/teacher, and the rest of the group observed the recorded activity online (not in contact with children). Performing art courses methodology (visual art and music) during the pandemic has hindered the overall insight into all dimensions of mentor work with children, which is agreed upon by 49,2% of the participants and partially agreed on by 22,9%.

Considering the problem, a hypothesis was set assuming teacher education students are not satisfied with the implementation of the practical part of teaching methodology courses in the online environment. The results are presented in Table 3.

Table 3. Assessment of student satisfaction with the realisation of art courses teaching methodology in the online environment (N = 295)

	Mode	Md	M	SD	SK	KA
I am satisfied with the quality of methodical preparation for working in kindergarten/school in the online environment	3	4,00	3,62	1,09	-0,46	-0,35
Work with mentors, i.e. individual work is necessary in the preparation of students for working with children in kindergarten/school	5	4,00	3,94	1,10	-0,95	0,35
The realisation of art and music methodology in special conditions during the pandemic does not reflect the true image of future work with children	5	4,00	3,67	1,22	-0,55	-0,66
The realisation of methodology courses in professional-pedagogic practice in the online environment does not provide adequate qualification for working with children	5	4,00	3,68	1,22	-0,57	-0,61

Looking at the results of arithmetic means, more than half of the participants agrees with the claim that visual arts and music teaching methodology in special conditions during the pandemic does not paint a true picture of future work with children (f = 56,9%; M = 3,67; DS = 1,22). Somewhat more than half of the participants (57,6%) agree with the claim that performing teaching methodology courses through professional-pedagogic practice in the online environment does not provide quality training of students for working with children (M = 3,68; DS = 1,22). Therefore, the hypothesis that students are not satisfied with the implementation of teaching methodology courses in the online environment is *confirmed.*

4 Discussion

Introducing distant instruction during the Covid-19 pandemic has led to the recognition of this field and the importance of such type of education at all levels, including high education, but also to the need of acquiring new ways of work and communication between students and teachers [33]. Some faculties have managed the situation better than others [12, 13]. For implementing online instruction, the most important thing is to secure a stabile internet connection, appropriate computer and other equipment, and access to electronic literature (availability of university textbooks and other study matter) [4]. Technological problems may cause intense frustration [34] so technical support by the faculty's staff is needed. Technical and pedagogic readiness of professors is paramount to performing instruction in the online environment. Students emphasized the choice of place and time for learning as benefits of online teaching, which is confirmed in other studies as well [34]. They regard the possibility of swift information and knowledge exchange with other students important, as well as the chance to improve their digital competences, which this form of teaching provides. On the other hand, almost half

of the participants feel online instruction does not secure faster matter acquisition nor efficient attainment of the learning outcomes or knowledge gain. They are aware that self-organisation, time management and independent work are key to efficient online learning, but they also consider they need support and additional motivation from their professors. In research [8] students named significant, constructive, textual feedback, and video recordings that explain the course matter as the most important elements in their learning and motivation during online instruction. They also appreciated timely feedback (within 12–24 h). This research has pointed out the problem of nonverbal communication's absence in the online environment, which is corroborated by some other research [4]. The students have shown satisfaction with the realised individual communication with teachers, wherein they used various electronic and digital models for establishing the connection, which was proven successful in some other cases as well [19, 28]. They have also expressed their satisfaction with teachers' understanding for experienced technical problems in online classes (poor sound and image, internet connection, visual processing of class content, etc.). The results of the implemented research regarding the technological conditions of studying show that teacher education students in Croatia possess the necessary equipment for participating in online learning, that their knowledge of online learning technologies is very good, and that they use various tools for attending classes and doing homework. On the other hand, there are differences in student satisfaction with online classes regarding the knowledge on e-learning technologies. Participants with better knowledge of e-technology notice more positive sides of online teaching, they are satisfied with class quality and have good technological conditions for studying, which is also confirmed by other studies [23]. The focus of this research was the instruction of art courses in the online environment. Art classes have their specificities since they include practical exercises done in specialised art studios and music cabinets fitted with special equipment, tools and means, which can lead to problems in realising these classes in the online environment [5]. The need for individual monitoring and support to students by their mentors during the creative process itself is also characteristic of art instruction. Due to the introduced measures regarding the COVID-19 pandemic, students could have also been faced with the problem of procuring the basic materials and means necessary for artistic expression, i.e. performing class assignments [26]. A research done in Uganda [31] showed that art and design professors face motivational challenges with regard to the use of digital technologies (concerning the negative attitude towards digital technologies, lack of self-confidence and time, insufficient digital competence and the fear of losing creativity). Moreover, they struggle with the lack of adequate approach to modern technologies (i.e. hardware, software and the Internet). In a research that sought to determine the opinions of undergraduate students about the art and design class taught via distant education during the COVID-19 pandemic, it was found that students lost their motivation. They did not satisfy their socialisation needs nor sufficiently develop some knowledge and abilities regarding certain contents that require practical exercise in art classes [2, 27]. Online way of work gives students the opportunity to acquire theoretical knowledge in the frame of art courses. However, instruction in visual arts teaching methodology without classroom practice does not realise its basic purpose nor develops student competence, whose attainment the course aims for [17].

5 Conclusion

Students at teacher education faculties acquire professional and expert competences in the frame of art courses by gaining knowledge and skills through theoretical and practical instruction and didactic-methodology courses. This research has shown that students are satisfied with the implemented practical training in the frame of visual arts and music courses and with their work results. Didactical practice in teaching methodology has not provided students with complete insight into working with children nor do they consider themselves competent enough for independent implementation of art activities with preschool and school age children. Most participants (55,4%) consider hybrid or mixed teaching method as the most optimal form of instruction in visual art courses at teacher faculties, which is confirmed by some other research [29]. Some studies suggest [4] that online teaching is applicable for theory transfer and less practical or non-applicable for practical work and art classes, wherein physical contact is irreplaceable. Owing to innovations in the field of technology and its greater and greater availability, changes occur in the methods of learning and teaching in the overall educational hierarchy, i.e. new forms of interaction and cooperation between teachers and students. However, this does not mean that the overall traditional curriculum should be changed. Research results show that the combination of traditional didactical approaches and online teaching is some sort of a most contemporary direction in art education. Quality interactive communication between students and teachers can provide the sense of social presence and in greater measure prevent the isolation due to the lack of direct interpersonal contact. A change in the educational programs for preschool teachers and teachers is also necessary regarding the acquisition of digital competence indispensable for implementing technologies in working with children and students.

6 Recommendations for Further Research

Research in the field could be expanded by including additional instruments that would utilize focus groups or interviews with participants. In such a way, a deeper insight into the experience of online learning would be acquired within the art courses students attend. Additionally, the research could encompass teachers' standpoints and views on online learning in art courses, and examine their opinion on their digital competence and possible problems in the course of online teaching.

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