



## CROATIAN VOCATIONAL SCHOOLS WITHIN A MUSEUM-SCHOOL PARTNERSHIP

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**Abstract/Izveček** The paper presents research on museum-school relationship from the point of view of teachers from secondary grammar and vocational schools. It explores their current and preferred interactions. The results show that teachers from vocational schools make field trips less frequently and are less satisfied with their relationship with museums. The characteristics of museum-school interactions are the same for both groups and form a model of low-intensity relations, with each institution maintaining its discrete authority, responsibilities and resources. Unlike the responses of the grammar-school teachers, those of vocational-school teachers do not indicate any development of the present relationship.

**Ključne besede:**

gimnazija, srednja strokovna šola, muzeji, muzejsko-šolsko partnerstvo, modeli interakcije

### Hrvaške strokovne šole v okviru muzejsko-šolskega partnerstva

Prispevek predstavlja rezultate raziskave odnosa med muzejem in šolo z vidika učiteljev gimnazij in srednjih strokovnih šol ter podaja njihove trenutne in želene interakcije. Rezultati kažejo, da učitelji poklicnih šol redkeje organizirajo ekskurzije in so z odnosom muzejev manj zadovoljni. Značilnosti interakcij med muzejem in šolo so skupne obema skupinama šol ter tvorijo model razmerja nizke intenzivnosti, pri čemer vsaka institucija ohranja svoje posebne pristojnosti, odgovornosti in vire. Za razliko od odgovorov gimnazijskih učiteljev odgovori učiteljev strokovnih šol ne kažejo na spremembe v napredku odnosa med šolo in muzejem.

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The relationship between museums and schools can best be described with the words of Beverly Sheppard (2007, 182) who sees it as “perhaps the oldest and most successful form of education collaboration in the world of museums”. Museums are considered to be beneficial for learners on all educational levels, from pre-schoolers to university students, and different forms of relationship between the two institutions have been discussed and researched by museology and education theoreticians (Hein 1998; Hooper Greenhill, 1994; 2007) as well as practitioners (Dengel et al. 2011; Đilas 2015; 1980; Varva, 1980). From the mid-20<sup>th</sup> century, when museums started building stronger ties with schools and school curricula, until the present day, the features of museums as places of education acquired new dimensions. They “reshaped themselves for contemporary times” in terms of their priorities and range of educational provision. Their activities have become more complex, and the educational role has become closely intertwined with representation, identity construction, and social responsibility (Hooper Greenhill, 2007, 1). Museums also offer multifaceted approaches to education, and in their interactions with schools, they can contribute, among other things, to the learning and education processes, as well as to students’ cultural awareness and education (Dengel et al, 2011), especially if these aspects are officially recognised as among the core competences in formal education, as has been the case with Croatia’s National Framework Curriculum (NFC, 2011, 17). However, unlike grammar schools, where students receive general education, vocational schools follow programmes that are specifically designed to match the competences of specific vocations. They contain fewer periods in subjects that are closely related to specialized museum collections (such as visual arts, history, biology, or geography), which might influence their interaction with museums. To gain more insight into this issue, the goal of the research presented here was to examine museum-school relationships from the perspective of Croatian secondary school teachers with emphasis on the differences between grammar and vocational school teachers’ current practice and preferred relationships with museums.

#### *Approaches to Museum-School Interactions*

Considering the long tradition of museum-school relationships, it is not surprising that various types have developed, although the most traditional way in which schools use museums is through field trips (Gupta, Adams, Kisiel and Dewitt, 2010; Behrendt and Franklin, 2014), which corresponds to the Croatian terms out-of-

classroom teaching (Cro. *izvanučionička nastava*) and visits (Cro. *posjet*), both of which are defined by Croatian regulations (Pravilnik, 2014). Out-of-classroom teaching is a form of educational activity whose goal is to achieve curriculum-based objectives and outcomes outside the school environment; as an umbrella term, it comprises school outings, excursions, field work and school in the natural environment. The term school visits refers to other educational activities outside the school environment that are carried out for achieving educational goals and objectives as well as the cultural and public work of schools. Certain authors, however, consider visits as one type of out-of-classroom teaching (Skok 2002).

Museums are seen as sites of modern approaches to teaching, offering students originality, immediacy and experience. Free from strict teaching structure, museum environments can inspire students to develop their creativity, develop increased attention and interest, observe in more detail, freely ask questions, and propose innovative ideas and solutions (Husanović-Pejnović, 2011).

Depending on the ways that museums organize their activities around schools and the manner in which museums are used by schoolteachers, there can be a range of museum-school relationships. Wan Chen Liu (2007) proposes several models, mostly depending on the degree to which learning in museums corresponds to school curricular requirements and on who initiates and implements educational activities. In the provider-receiver model, museum staff take responsibility for teaching and managing the class without communicating details about teaching and learning with teachers. Depending on programmes, this model also corresponds to the use of museums for extracurricular activities unrelated to the school programme, for example, socializing students and introducing them to different cultures (Bélanger and Meunier, 2011).

The museum-directed model is based on the museum's initiative and entails finding ways to achieve goals set by the school curriculum. Engagement of museum staff can be seen as a crucial factor in establishing such a partnership because it is they who usually face the demands of the classroom and school contexts (Anderson and Zhang, 2003) to which they should adapt (Gupta et al. 2010). Since teachers' involvement at various stages of preparation and implementation of fieldtrip activities enhances the relationship between the institutions (Tal and Steiner, 2006) their role is considered important for successful field trips. It is suggested they should pre-visit the venue to meet the staff and arrange activities, and then prepare students for the experience (Behrendt and Franklin, 2014, 242).

This type of relationship also encompasses both educational and cultural objectives of the visit (Bélanger and Meunier, 2011).

A more pronounced role for teachers and heightened importance of the curriculum in museum education are discernible in the school-directed and museum-as-school models in which teachers are initiators who conceive of and create teaching material based on the curriculum with the help of museum staff. In the former, the museum positions itself as a provider of services or educational tools in response to demand from schools (Bélanger and Meunier, 2011), while in the latter model, “museum education is not an extension but rather the core of the school curriculum” (Liu, 2007, 131), and specific affordances of the museum environment and programming are used for achieving curriculum-based education goals. Museum exhibitions can be developed with teachers, in connection with curricular objectives and specifically tailored to meet the needs of particular subjects and school years, or museum staff can hold lectures that are also closely connected to the curriculum (Kačírek and Tišliar, 2017). However, the criteria for curriculum-based activities and teaching material can be highly individual and contingent on the museum’s services and on the way teachers use museum programmes (Hooper Greenhill 2007).

The model of museum-school interaction through a third party is mediated by having one or more persons who encourage and help the institutions to interact. Cases like these can include a project-based relationship in which both museums and schools are engaged as partners to some other institution or organisation. Liu’s school-in-museum model presupposes that the school physically is set up within the museum space or that both institutions share premises. This model, characterized by a high level of interdependency between museum- and school-related content, is better developed in the USA through charter schools and museum-managed schools.

In addition to these specific models, one can determine more general levels of interaction intensity and interrelatedness (Chesebrough, 1998). Cooperation, as a low-intensity interaction, entails an informal relationship in which each institution maintains its discrete authority, responsibilities and resources, and the only thing shared is the information that brings them into contact.

In coordinated interactions, institutions show more understanding of the goals and tasks but with no actual merging of resources and without forming a shared mission, while in collaboration, interaction arises from a shared mission, new organizational structure and mutual responsibilities.

Collaboration is also conditioned upon common actions and clearly defined, mutually beneficial goals (Kovač and Buchberger 2013). Project-based programmes that focus on multiple discourses from different stakeholders, including students, and require commitment from both sides, clearly defined goals and objectives and agreed upon pedagogies are conducive to collaborative partnerships (Rahm 2016; Raaijmakers, McEwen, Walan, and Christenson, 2021).

In addition to the responsibilities of teachers and museum staff and their approach to the goals, outcomes and structure of the educational process prior, during and after the visit, a range of other factors can influence the formation and maintenance of the museum-school relationship. These include availability of staff, funding, time constraints caused by a tight curriculum that leaves hardly any room for fieldtrips, and communication issues related either to the educational content or to coordination (Ateş and Lane, 2020; Borac and Dujmović, 2015; Kisiel, 2014; Matias, Lemerise and Lussier-Desrochers, 2011; Michie, 1998). Despite this and the acknowledged importance of museums for schools and vice-versa, there is a gap in the literature about the characteristics of interactions between them, which this paper aims to fill by exploring the relationships between museums and secondary schools, with special focus on a comparison of vocational schools with grammar schools.

## **Research Methodology**

Based on these approaches to interpreting and defining museum-school interactions, the goal of the research is primarily to provide an initial insight into the features of the relationships between Croatian secondary schools and museums, with special attention to differences between grammar and vocational schools. The significance of this study lies in the contribution of its results to the fields of museology and education in that they help determine the current state of practices, attitudes and pedagogies related to informal and formal learning within secondary-school field trips to museums. It offers significant scope for further investigation that can have a practical impact on the organisation and implementation of field trips. The goals of the study are to explore the ways in which teachers currently use museums during school field trips and improvements in the relationship they would like to see in the future. Two research questions and two hypotheses were formulated to address the objectives of the study.

Q1 What are the differences in the current relationship with museums between vocational and grammar-school teachers?

Q2 What are the differences in the preferred relationships with museums between vocational and grammar-school teachers?

H1 Vocational school teachers make fewer field trips to museums than grammar-school teachers.

H2 Vocational school teachers are less satisfied with their relationship with museums than grammar-school teachers.

The study was conducted through a survey which included thirty-one items. For the purpose of this paper, we present those results specifically linked to the set research questions and hypotheses. These include items relating to types of schools and years spent working in secondary schools, frequency of museum field trips, views on museums' benefits for secondary education, frequency of museum-school interaction characteristics, satisfaction with the museum-school relationship, barriers to collaboration and proposals for improvement. The closed questions are four-point Likert-scale items that were tested for reliability (Drost, 2011) and the value for Cronbach's Alpha was  $\alpha = .84$ . The forced scale was chosen to prevent clustering responses at the mid-point and to facilitate comparison between the two groups of respondents: grammar and vocational school teachers.

The quantitative data were analysed in the SPSS programme through descriptive statistics (frequency counts, percentages, median, mean) and the chi-square test with an alpha level of 0.05, which was used to verify the presence of significant differences in the responses between the two group of participants. The open-ended questions yielded textual data which were analysed through thematic analysis (Popping, 2015). Examination of responses led to the identification of recurring patterns and the defining of categories, which were then compared in number between the two groups of research participants: the grammar and vocational school teachers. Indication of difference in the responses between the two groups represents categories that are unique to either group and a frequency of concepts at least twice as high in one category of either group.

The survey was conducted in April 2021 using an online questionnaire emailed to 126 principals and educators (school counsellors) from all high schools in the City of Zagreb, and Zagreb and Varaždin counties, which are publicly available data on the website of the Croatian Ministry of Science and Education. They were asked to forward the message and the survey link to teachers working in their schools.

## Research Results

The research was based on non-probabilistic intentional sampling and included altogether 256 teachers from three types of schools: grammar, vocational and arts schools participated in the survey, with 76% of participants being female and 24% male. Since the research objectives are to determine differences between grammar (heretofore GS) and vocational school (heretofore VS) in teachers' interactions with museums, the sample is composed of teachers from these two types of schools who have had five or more years of working experience in secondary education. The distribution of participants according to the type of secondary school is shown in Table 1.

Table 1. Distribution of survey participants based on school type

Type of school	f	%
Grammar school	103	48
Vocational school	113	53
Total	216	100

In the survey question related to the frequency of field trips, participants estimated how often they went on museums field trips, ranging from 1 (*never*) to *very often* (four or more times per year). The numbers and percentages of the *never* and *rarely* responses are higher among VS teachers when compared with their GS colleagues (Table 2). The statistical difference between the two groups is confirmed, with a p-value smaller than .001, which supports the first hypothesis that vocational school teachers take their classes on museum field trips less frequently than do grammar school teachers.

Table 2. Frequency of museum visits by vocational and grammar school teachers

Frequency of museum field trips	Grammar School (GS)		Vocational School (VS)	
	f	%	f	%
Never	13	12.6	29	25.7
Rarely (once/year)	34	33.0	65	57.5
Often (2-4 times/year)	41	39.8	17	15.0
Very often (>4 times /year)	15	14.6	2	1.8
Total	103	100,0	113	100,0

  

$\chi^2= 35.2872$	$p < .001$	$df=3$
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Bearing in mind that views on museums can have an influence on their use (Lemon and Garvis, 2014), teachers were asked to provide their views on the benefits of museums in the context of secondary education. The categories with the number of recurring concepts are given in Table 3. *Museum affordances* is a category that denotes specific learning advantages of the museum environment in terms of informality and sensorial learning, one of which is *learning by seeing*, presented in the table as a separate sub-category because of the large number of responses expressing the importance of visual exposure to authentic museums objects for learning. *Expanding knowledge* is stated as beneficial in terms of the general usefulness of additional knowledge to students.

Museums are also seen as places that *reinforce and supplement school knowledge*, by providing new information or experiences of real, tangible things in relation to what has been taught by the teachers.

*Cultural education and enrichment* are also seen by teachers as important for high school students, since these effects broaden their horizons, while contributing to their cultural capital and future museum-going. In addition, teachers mention *building heritage awareness, making sense of history* and *unique experiences* as important educational roles of museums. Compared to grammar schools, vocational school teachers put less emphasis on learning by seeing than on new knowledge. A difference is also discernible in the role of museums as places that help students to build heritage awareness, on the one hand, and a sense of history, on the other. VS teachers place more value on the presentation of historical knowledge, historical development of a phenomenon or one particular moment in history.

*Unique experience* is a category that relates only to VS teachers, and it primarily concerns particularities of the museum as an institution, such as containing artefacts that cannot be seen anywhere else.

The frequency of museum-school interaction characteristics was explored through twelve items in the form of questions, such as “To what degree do museum staff alone carry out activities?”, or “How often do you ask museum staff to adapt activities to your needs?”, to which teachers chose answers never (1), rarely (2), often (3) and always (4). The results expressed as median scores are given in Table 3, together with chi-square and p values denoting the presence or absence of a significant difference in the distribution of responses between the two groups.



Table 3. Benefits of museums for secondary education and their frequency for the two groups

Categories	GS	VS
Museums' learning affordances	12	5
Learning by seeing	20	4
Expanding knowledge	13	21
Reinforcing and/or supplementing school knowledge	38	33
Cultural education and enrichment	25	30
Building (local) heritage awareness	8	4
Making sense of history	3	10
Unique experience	-	4

The sample for this set of questions does not include responses from teachers who had never visited museums with their classes at the time they participated in the survey.

To determine the prevalence of each characteristic, the two extreme sides of the Likert-scale responses are divided into the negative (*never* and *rarely*) and positive values (*often* and *always*), whereby the median 1 and/or 2 is set as the determinant of a negative and median 3 and/or 4 of a positive value, with the positive value representing a higher tendency for a particular characteristic.

It is discernible from Table 3 that there are only three types of interactions with the positive value (expressed by the median 3): *Teachers initiate the visit*, *Museum staff alone conceive of*, and *Museum staff alone carry out activities in museum*. The remaining nine characteristics have negative values (median 1 and 2). The two lowest frequency scores for both groups are *Opportunity to host museum staff in school* and *Teachers and museum staff conceive of activities together*.

The data obtained from the chi-square test performed on each of the twelve items shows that no significant difference exists in the frequency distribution between the two groups, pointing to the conclusion that there are no differences between GS and VS teachers in the characteristics of their interaction with museums.

Table 4. Prevalence of and differences in museum-school interaction characteristics for the two groups

Interaction characteristics	VS M	GS M	X <sup>2</sup> /p
Museum staff alone carry out activities	3.00	3.00	3.49/.321
Museum staff alone conceive of activities	3.00	3.00	2.65/.448
Teachers initiate field trips	3.00	3.00	3.19/.362
Museum staff initiate field trips	2.00	2.00	0.63/.889
Teachers carry out activities in museums	2.00	2.00	3.15/.369
Museum trip linked to learning outcomes of taught subject	2.00	2.00	3.59/.308
Activities carried out by a third person	2.00	1.00	0.27/.973
Teachers ask museums to adapt activities to their needs	1.00	1.00	2.51/.472
Teachers suggest subject-related activities to museum	1.00	1.00	1.28/.527
School groups participate in projects carried out in museum	1.00	1.00	2.34/.309
Teachers and museum staff conceive of activities together	1.00	1.00	1.33/.513
Opportunities to host museum staff in school	1.00	1.00	0.33/.846

The results concerning satisfaction with museum-school interaction are given in Table 5. They point to the majority of responses by both groups of teachers being in the *mainly satisfied* category, although the responses from the vocational school teachers tend to have more negative values. A chi-square test run on the data shows that there is a significant difference in the distribution of responses between the two groups, with a p value lower than .023, suggesting that vocational school teachers are less satisfied than grammar school teachers, thus proving the second hypothesis.

Table 5. Satisfaction with museum-school interaction for the two groups

Museum visit frequency	Grammar School Teachers		Vocational School Teachers	
	f	%	f	%
Entirely unsatisfied	9	8.7	22	19.5
Mainly unsatisfied	10	9.7	19	16.8
Mainly satisfied	74	71.8	60	53.1
Entirely satisfied	10	9.7	12	10.6
Total	103	100,0	113	100,0
x <sup>2</sup> = 9.446		p < .023		df=3

In exploring preferred ways of interaction, teachers were asked to provide views on the obstacles to collaboration and to propose improvements.

When responding to the question of obstacles, the teachers cited reasons divided into seven categories, with one related to the coronavirus pandemic and earthquake-related damage to museums, both of which have been a hindrance to field trips in the last two years (Table 3). *Curriculum-based time constraints and a lack of teacher motivation* concern the inability to do field trips because of the overwhelming amount of teaching required by subject curricula and the additional work needing to be done by teachers in preparing students for the field trips, which decreases their motivation for organising trips.

*Organisational issues* include difficulty organising transportation, scheduling, coordination with periods of other subject teachers, price of museum admission and parental consent.

*The lack of information and communication* is self-explanatory in that it concerns insufficient information about museum programmes and activities and lack of communication between teachers and museum staff.

*Lack of relevant and/or interesting activities and suitable teaching approaches* are cited in relation to museum programmes that do not address students' interests and a teaching approach that is not adapted to young people, which might be related to the category *uninterested students* (indicating a lack of interest in visiting museums). The only category that is distinct to vocational school teachers is *lack of interest in and engagement by museums* in offering programmes and enticing collaboration with secondary schools.

Table 6. Obstacles to partnership and their frequency for the two groups

Category	GS	VS
Curriculum-based constraints and teacher motivation	35	19
Organisational issues	17	22
Lack of information and communication	14	19
Lack of relevant /interesting activities and suitable teaching approaches	15	9
Uninterested students	7	11
Lack of interest and engagement by museums	-	14
Other (COVID, earthquake)	10	6

Responses that relate to teachers' proposals for improvement concerning the museum-school relationship are grouped into nine categories (Table 7).

*Museum scaffolding* entails the provision of materials and education for teachers to make them more prepared for field trips. This is the only category showing responses only by grammar school teachers.

*Diversification of programmes and teaching approaches* that teachers want from museums include both new types of activities and specific pedagogies that facilitate active learning, use of digital technology, and participation of students in activities. *Creation of programmes related to specific subject curricula* is a category more often cited by GS teachers, while the *provision of more timely information about their programmes and enticement (for teachers and students)* by museums is more important for VS teachers.

*Joint work* on activities and organisation is also cited by both groups of teachers, although more frequently by GS teachers. The remaining four categories include the development of more direct *mutual contacts and institutional framework* for organising and conducting field trips (such as having a person in charge of coordination between schools and museums), *free or cheaper entrance fees*, making *field trips part of the subject curricula and compulsory*, and the responses denoting a lack of ideas about or suggestions on the topic.

Table 7. Teachers' proposed improvements to the museum-school relationship and their frequency for the two groups

Category	GS	VS
Museum scaffolding	5	-
Diversification of programmes and teaching approaches	10	13
Creation of programmes related to (subject) curricula	14	5
Provision of (timely) information and enticement (for teachers and students)	21	49
Joint work by museum staff and teachers	5	2
Mutual contacts and institutional framework	15	13
Free entrance /cheaper entrance fees	4	8
School trips to museums part of curriculum /made compulsory	8	6
Do not know/have no suggestions	12	16

## Discussion

The provision of formal and informal education in museums has been changing along with the more pronounced role of museum education and particularly cultural education (Hooper Greenhill 1994). This development seems to be reflected in this research. The results show that there is a significant difference in the frequency of museum field trips between grammar and vocational schools but no difference in their interaction characteristics. It is teachers who more often than not initiate trips to museums, but it is the museum staff who more frequently conceive of and carry out activities for students.

Both groups of teachers recognize museums as places that reinforce and supplement school knowledge that is curriculum-based but do not tend to relate museum field trips to the outcomes of the subjects they teach. Similar discrepancies have been shown by Anderson, Kisiel, and Storksdiack (2006), who found that teachers place considerable importance on curricular connections between schools and museums but base the actual reasons for visiting museums on student motivation and interest. Croatian teachers also recognise the value of specific museum affordances that make the learning visual, embodied, more fun and not as formal as in school, which are some of the characteristics that have been recognized as conducive to information retention, creativity, and motivation for learning (Borić, Škugor and Perković, 2010). However, given the low tendency of teachers to participate in the shaping and implementation of activities or to demand museum staff adjust the activities, museum affordances cannot be considered as contributors to formal education in museums (Kačirek and Tišliar, 2017). Rather, learning is contingent on museum staff's approaches, which might or might not be related to the outcomes of particular school subjects. Additionally, learning by seeing or illustrative teaching, which is based on real museum objects, is one concept that registers a rather significant difference between the two groups of teachers. This probably stems from the nature of the school programme, which is based on multiple subjects that correspond to the knowledge produced in museums. This, however, also might point to a more traditional approach to museum education, i.e., relying on disciplinary knowledge, which the museum staff tend to adopt. This issue was previously raised by Tal and Morag (2007), who pointed to a huge, though unrealized potential for socio-cultural education which can be adopted alongside teaching approaches that are closer to those in schools. This issue warrants further investigation, preferably through interviews and observation during field trips.

Another two interesting differences between the two groups of teachers relate to building heritage awareness among grammar school teachers and making sense of history among their vocational school colleagues, which might also be explained based on the difference in school subjects. While grammar schools have more periods dedicated to topics related to cultural heritage, vocational schools view general historical overviews and developments as a more pronounced benefit. This is a topic that also deserves more in-depth research.

The interaction characteristics and teachers' views of museums place the relationship between the two institutions in the hands of museums. This has been recognized as a typical feature of the museum-school partnership in many countries (Griffin, 2011), and one in which both schools and museums maintain distinct roles and commit very moderately to the relationship (Weiland and Akerson, 2013). In terms of Chesebrough's (1998) degrees of mutual engagement and shared vision, the interaction between Croatian secondary school teachers and museum staff can best be described as cooperation, simultaneously corresponding to Liu's provider-receiver model (2007).

The satisfaction among the respondents with the current form of interaction is mostly positive, with vocational school teachers showing less satisfaction than their grammar school colleagues. Despite that, both groups cited several obstacles.

Their responses match findings from previous studies (Ateş and Lane, 2020; Borac and Dujmović, 2015; Kiesel, 2014; Lemerise et al., 2011), which attests to common problems of organisation, time allocation, insufficient communication existing not only in Croatia but in other countries as well. Differences in the perception of obstacles between the two groups are small, and the only discernible difference is that vocational school teachers express more dissatisfaction with museum engagement, suggesting very low levels of interest by museums in building relationships with these schools. The improvements they mostly cite indicate that they expect museums to approach schools with proposals for collaboration, to develop suitable and interesting programmes for students and inform schools about them. In other words, they place more responsibility on museums for developing a more fruitful relationship and are far less interested in basing the partnership on curricular goals. Their expectations might have stemmed from museums' lack of interest in developing activities on topics that are outside the ordinary scope of culture, as well as from the teachers' inability to recognise the potential of museums to connect programmes with their subject, which might be a reason for their reluctance to become more involved. Previous research on barriers to collaboration show museum staff's views of teachers as lacking in general comprehension of the museum work (Skok, 2002). An approach that could remedy such a situation could be to make teachers and museum staff aware of the importance of culture, tradition and creativity in different aspects of social life (Okvuran and Karadeniz, 2022), which might lead to mutual recognition of their resources for making curricular connections, as well.

In contrast to the vocational school teachers, those teaching in grammar schools tend to see a development of the relationship beyond cooperation and more in favour of coordinated interaction. This is reflected in their responses in terms of expectation that museums create curriculum-based activities, in the desire to work together with museum staff and receive help from them regarding preparation of students for the trip. Instead of reducing student preparation to merely rules of conduct in museums, which can often be the case (Borac and Dujmović, 2015; Okvuran and Karadeniz, 2022), museum scaffolding might encourage higher participation in the implementation of activities among teachers and potentially change the current relationship into one whose characteristics come close to Liu's (2007) museum-directed model and a coordination level at which there is more understanding of each other's goals and tasks.

In providing an overview of museum-school interactions, this study reveals certain limitations, primarily in terms of the non-specific data that resulted from open-ended survey questions. The categories of "learning by seeing" and "expanding knowledge", which are related to museums' benefits for secondary education, were coded as responses given in the form of general attitude to museums without directly connecting new knowledge or visual learning to school programmes. However, it is possible that the teachers indeed referred to expanding or visually illustrating school knowledge, without explicitly expressing this. It is, therefore, necessary to conduct interviews which allow probing for more information to elicit more specific responses. Further research should also be done on museum staff's educational practices and their attitudes to this particular audience segment, which could provide more comprehensive insight into the issues as well as potential solutions.

## **Conclusion**

The research presented in this paper was carried out with the aim of examining museum-school interactions during field trips, based on the practices and opinions of secondary school teachers. The objectives were to establish whether there were differences between grammar and vocational school teachers in terms of their current and preferred relationship with museums and to prove or disprove the hypotheses that there were differences in the frequency of field trips and level of satisfaction with the current relationship between the two groups.

Statistical analysis has shown that there are significant differences in the frequency of trips and teacher satisfaction, indicating that grammar school teachers take their classes to museums more often and that vocational school teachers are somewhat less satisfied with their relationship with museums. Concerning the characteristics of the current interactions, there are no differences, since both types of schools maintain a cooperative relationship in which each side maintains its discrete authority, responsibilities and resources. In terms of preferred interactions, vocational schools tend to place responsibility for a more productive relationship on museums, asking for better provision of information, development of mutual contacts and museums' encouragement of teachers and students to participate, which would continue, though potentially improve, the cooperative level or their relationships.

On the other hand, the grammar school teachers are more willing and open to getting help from museum staff, joint work and programmes that correspond with curricula, which might change their interactions from cooperation to coordination with more understanding of each other's goals and tasks.

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