frontiers | Frontiers in Human Dynamics

TYPE Original Research
PUBLISHED 25 April 2024
DOI 10.3389/fhumd.2024.1368425



OPEN ACCESS

EDITED BY
Sonia Brito-Costa,
Polytechnic Institute of Coimbra, Portugal

REVIEWED BY
Alisa Petroff,
Fundació per a la Universitat Oberta de Catalunya, Spain
Leyla Safta-Zecheria,
West University of Timişoara, Romania
Michael Eve,
Università degli Studi del Piemonte Orientale, Italy

*CORRESPONDENCE
Tanja Schroot
✉ tanja.schroot@unito.it

RECEIVED 10 January 2024
ACCEPTED 08 April 2024
PUBLISHED 25 April 2024

CITATION
Schroot T, Lőrincz B and Bernát A (2024) Navigating the peer-to-peer workflow in non-formal education through an innovative e-learning platform: a case study of the KIDS4ALLL educational project in Hungary and Italy. *Front. Hum. Dyn.* 6:1368425. doi: 10.3389/fhumd.2024.1368425



# Navigating the peer-to-peer workflow in non-formal education through an innovative e-learning platform: a case study of the KIDS4ALLL educational project in Hungary and Italy

Tanja Schroot[1]*, Borbála Lőrincz[2,3] and Anikó Bernát[2]

[1]Department of Cultures, Politics and Society, University of Torino, Turin, Italy, [2]TÁRKI Social Research Institute, Budapest, Hungary, [3]ELTE Eötvös Loránd University, Doctoral School of Sociology, Budapest, Hungary

The digital revolution is affecting all aspects of life, radically transforming everyday tasks and routines. The ability to cope with new challenges in life, including new forms of learning are key skills in the 21st-century, however, education systems often struggle with tackling digital inequalities. A digital learning platform developed by the KIDS4ALLL educational project, implemented in face-to-face student interactions, aims to mitigate the divide and the resulting social disadvantages among children with and without migration/ethnic minority background. Analyzing data collected during the pilot phase of the project in two of the participating countries, Italy and Hungary, this paper examines how students and teaching staff adapt to a newly introduced digital learning tool based on peer-to-peer workflows. Firstly, it examines the role of educators' interpersonal competences in navigating the innovative learning activities and delves into how they use them and how they manage resources. Secondly, the study explores what attitudes and behaviors are observed among students engaged in the proposed peer-led activities, in particular in terms of their ability to cope with uncertainty and complexity. The analytical framework of the paper is based on two cultural dimensions offered by Hofstede, the index of uncertainty avoidance (UAI) and power distance (PDI), and it utilizes the personal, social and learning-to-learn competence of the eight LLL Key Competences as defined by the European Commission to conceptualize the skills of educators and students. Interpreting data from Italy and Hungary in their respective social and educational contexts, the study finds that the most important features that proved to be effective and useful during the pilot phase were the democratic power-relations between students and educators, the peer-to-peer scheme and its further development to the peer-for-peer approach. The child-friendly and real-life-related new curriculum and its appealing digital learning platform, embedded into a flexible, playful and child-centered pedagogical approach, were also successful. These are all complementing the traditional, formal school environment and pedagogy which, despite all developments in formal education in the past decades, can be characterized as teacher-centered and frontal.

KEYWORDS

**peer-to-peer learning, educational inclusion, LLL Key Competences, uncertainty avoidance, power distance, non-formal education, Italy, Hungary**

## Introduction

The digital revolution is affecting every aspect of life, from school to work, private to professional life and public affairs, transforming everyday tasks and routines. It also implies new approaches and practices, as well as day-to-day challenges and uncertainties, and leads to inequalities that can be represented by uneven power distribution and related preferences (Hofstede, 2011). Undoubtedly, lifelong learning and the development of the competences needed for it have never been more opportune. Digital learning settings, especially those embedded in heterogenous educational contexts, require high levels of ability to learn, collaborate and solve problems from their users. An ability to cope with "new ways of working, living, learning and thinking" and to "face complex problems and unknown future contexts" are considered crucial skills in a 21st-century education and work environment (European Commission, 2019a, p. 11). The earlier the acquisition of these competences starts, the more they are integrated with other basic skills, but schools across Europe often lack appropriate equipment and training to prepare children for the new challenges of the digital world. It is particularly important in this process to support children who have social, cognitive, or other disadvantages that contribute to learning gaps, in both formal and non-formal educational settings, because the digital revolution is not a fully democratic process and not all social groups are benefitting equally from it.

A digital learning platform has been developed by the KIDS4ALLL educational project[1] to mitigate the digital divide and the resulting social disadvantages. The KIDS4ALLL project was implemented in eight countries between 2021 and 2024 with the objective to develop the EU-defined 8 Key Competences for Lifelong Learning among children with and without a migration or ethnic minority background, and to enhance the competences of educators at inclusive and participatory teaching. These objectives were accomplished by using an e-learning platform developed by the project. The KIDS4ALLL platform is available in fourteen languages and provides more than 100 learning units in the eight key competences, which students can use either independently or in combination with educator facilitation, tailored to ISCED 2 and 3 age groups. Central to the project is the concept of peer-to-peer learning, implemented in "buddy-pairs" (learner couples). These consist of 2–3 children and are set up by educators according to pre-defined criteria, aiming for (cognitive, linguistic, ethnic etc.) diversity within the pairs.

Building on these premises, in this paper we aim to investigate how students and educational staff adapt to a newly introduced digital learning tool that is built on peer work processes. We propose two research questions:

1) What is the role of educators' interpersonal competences in navigating innovative, digital learning activities? How are they utilized and how are resources (learning climate, pedagogical techniques) managed?
2) What attitudes and behaviors can be observed among students participating in the proposed peer-led activities, especially regarding their ability to cope with uncertainty and complexity, and their learning-to-learn skills?

Based on data collected during the pilot phase of the project, we provide an analysis of the results of KIDS4ALLL in two European educational contexts, Hungary and Italy.[2] We take into consideration their respective education systems, reflecting distinctive demographic profiles: while Italy hosts a significant number of families with a migration background (ISTAT, 2023), in Hungary the Roma ethnic minority constitutes the most significant outgroup (Váradi, 2014). Despite differences at the national level as well as between the educational contexts studied in the two countries, the level of segregation (and consequent lack of diversity in formal and non-formal educational settings) is a significant factor in both systems. Our analysis explores if and to what extent socio-cultural and educational background and traditions play a role in the use of innovative learning material and methods in non-formal education. Rather than proposing a comparative analysis, we aim to present results from a variety of different non-formal educational settings in Europe, grounded in two cultural dimensions proposed by Hofstede: uncertainty avoidance and power distance.

Investigating educators' and students' competences, we focus on the "Personal, social and learning to learn competence" as defined in the Framework for eight LLL Key Competences set out by the European Commission. This competence has attracted great interest in the international scientific community, especially since the formulation of its newly minted profile (European Commission, 2019a), now including the ability to evaluate and share learning. The competence set has been examined theoretically (Hoskins and Deakin Crick, 2010) and empirically through case studies in different educational settings. Recent scientific works consider the development and mastery of the transversal skill set for students and teachers in diverse national contexts and educational settings from formal primary (Morón-Monge and García-Carmona, 2022) through secondary (Drághicescu et al., 2015; Caena and Vuorikari, 2022; Kikas et al., 2023), to tertiary education (Rawson, 2000; Wingate, 2007; García-Toledano et al., 2023). However, most current studies focus on formal education and teachers' competences on the one hand, and on the development or assessment of students' skill sets on the other. Our paper aims to fill a gap and contribute to existing works by addressing non-formal educational contexts and educators' personal, social and learning-to-learn competences within those. However, rather than their development, we focus on the interplay between educators' and students' skills of the same competence set within a specific and experimental educational scenario.

1 The project "Key Inclusive Development Strategies for Lifelong Learning – KIDS4ALLL" was funded by the European Commission within the H2020 Research and Innovation Programme under the grant agreement number 101004807.

2 The platform was tested for nine months in eight countries: Germany, Greece, Hungary, Israel, Italy, Norway, Spain, Turkey in formal, non-formal and informal educational settings.

# Theoretical background

## The relevance of transversal lifelong learning key competences for teaching and education professions

In the European Commission's definitions, knowledge, skills and attitudes constitute an intertwined, 3-fold dimension of competences. This competence set allocates three different processes of competence generation to three distinctive qualities of the individual changing its initial role as learner to trainee to ambassador and thus transmitter of the acquired competence. Whereas, knowledge refers to "facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject", skills are defined as the "ability and capacity to carry out processes and use the existing knowledge to achieve results". Attitudes describe the "disposition and mind-sets to act or react to ideas, persons or situations" (European Commission, 2018, p. 7).

The EC's Recommendation on Key Competences for Lifelong Learning (2018) proposes eight categories of competence requirements to European citizens, which foster personal fulfillment and development through employment, social inclusion and active citizenship. These competences cover areas of language, culture and literacy, STEM subjects and digital skills, and are considered equally important (European Commission, 2018). Consistent with the central idea of the concept of lifelong learning, the eight key competences are assumed to develop as intertwined and complementary sets throughout life, in diverse learning contexts (European Commission, 2019b). In fact, as illustrated in the Figure 1, they seem to be rather sequential, especially if considered within highly diversified formal, non-formal and informal educational contexts.

The eight key competences must be thus understood by educational professionals at two levels. First, with regard to competence development and the continuous optimisation of the teachers' and trainers' knowledge and skills, and second, concerning a transfer of acquired and cultivated knowledge, transversal skill sets and socio-emotional competences to the students. Therefore, professionals in the educational field find themselves in a constant interplay of acquisition, cultivation, updating and transmission of competence sets in their daily working experience.

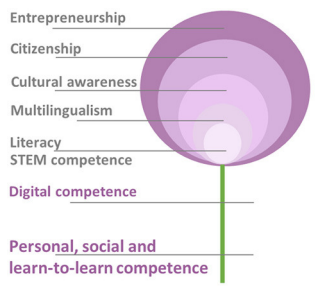


FIGURE 1
The interrelation of the 8 LLL key competences (own elaboration).

The personal, social and learn-to-learn competence is of particular importance for this paper as it is considered essential to develop "learning autonomy, metacognition, self-awareness and self-regulation" (European Commission, 2019a, p. 9). Its definition puts focus on effective time management, constructive cooperation with others, resilience, an ability to cope with uncertainty and complexity, the maintenance of physical and mental health, as well as empathy and skills in conflict-resolution. Especially in contemporary educational contexts, which are often characterized by socio-economic, linguistic, cultural and ethnic diversity, the so-called transversal "soft" skill sets are of utmost importance to guarantee a satisfying learning and training experience. These competences develop in parallel with "life" skills, and the interpersonal competences that are essential in our contemporary society. They are also integral part of the formal, non-formal and informal instruction that occurs in social processes from one generation to another (Tuschling and Engemann, 2006; London, 2011). In a diachronic perspective, the transmission of social competences is starkly impacted by teachers' own educational experiences in the given socio-political context, which guide strategies and priorities for the education of children. Accordingly, these competence sets are to be acquired and cultivated through direct experience to foster adaptability to diverse settings.

## Hofstede's dimensions and education

Situations and contexts, chances and barriers, (educational) choices and decisions are viewed and construed through a cultural lens that guides their understanding. It is therefore central to consider cultural differences to comprehend thought patterns and to mediate accordingly. Although subject of critical academic discussions due to its rather static view of culture (Hofstede, 2001; Signorini et al., 2009), cultural dimensions theory provides a pillar for current and past academic studies. For the purposes of this paper, we consider two cultural dimensions out of the six described by Hofstede (2001) as significant. In the analyzed contexts of Italy and Hungary, the index of uncertainty avoidance (UAI) and power distance (PDI) are relevant to understand and explain the dynamics of cultural capital acquisition among educators.

The uncertainty avoidance Index indicates the degree to which unpredictability—"a basic fact of human life" as "time goes only one way" (Hofstede, 2001, p. 145)—is tolerated or counteracted in different cultures. According to Hofstede (1986, 2001), competences to deal with uncertainty must be conveyed and learned. They are part of the cultural heritage that is shaped by institutions such as family, school, and state. The character, extent and mode of these coping competences are guided by the strive for predictability and the need to minimize the unknown. In particular, technology, religion—providing believers a "knowledge of the unknown" (Hofstede, 1993, p. 130)—and law play an important role in coping with uncertainty. Unpredictable situations occurring naturally may be counteracted with technological use and progress, while legal frameworks (rules, regulations) may direct human behavior.

The educational contexts of societies with a strong avoidance of uncertainty are characterized by certain preferences among teachers and students. These are structured learning processes with precise objectives, contents that reveal/allow only one response to questions, as well as the expectation of rewards for positive results. According to Hofstede et al. (2010), teachers are considered as experts and the main source of knowledge in highly uncertainty-avoiding countries. Furthermore, they maintain that these societies tend to put more responsibility on caretakers for the control of schooling matters. Accordingly, there is a stronger involvement of parents regarding the encouragement, monitoring and assessment of their children's learning motivation and behavior in school. Italy and Hungary, with a score of 75 and 82 points (on a scale 0–100), respectively, rather high on this dimension and classify accordingly as "highly-uncertainty-avoiding" countries (Hofstede et al., 2010, p. 92–93).

On the contrary, Hofstede's power distance dimension refers to "the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. This represents inequality (more vs. less), but defined from below, not from above" (Hofstede, 2011, p. 9). Consequently, the model maintains firstly that power distribution and, consequently, inequality are culturally perceived and accepted; and secondly that hierarchies and power mechanisms have a function and are necessary for the striving toward a common objective. Culturally perceived power distance would thus guide educational endeavors in formal, non-formal and informal milieus.

Power distance displays different features in various contexts. In the familial context, Hofstede (2011) presumes that different role distribution and perception among family members are shown in the treatment of children and parents as equals in countries that are ranked with a low power distance index. This translates conversely in taught obedience and understanding of hierarchical roles in contexts with a higher power distance. Children growing up in families with a bicultural and multilingual background and two or more languages could, accordingly, encounter multiple contexts with diverse power distances. These contexts must be constantly mediated, which will, in turn, impact family decisions, including those related to education. In school, power distance is displayed in teacher-centered, strictly disciplined environments (high power-distant cultures) vs. learner-centered schooling (low power-distant cultures) (Sugahara and Boland, 2010; Cortina et al., 2017).

These polarized perceptions and characteristics of education are grounded in the founding ideas of Eastern and Western education systems, which can be traced back to the Confucian and Socratic philosophy. Cultures based on the Socratic tradition encourage learning to be "an end in and of itself" and thus "an enjoyable experience in its own right", based on critical thinking. However, the Confucian philosophy—based on the ability-through-effort principle, which works toward an aspired educational goal—holds that "social harmony is achieved through education, and a good education is achieved through hard work" (Cortina et al., 2017).

International studies confirm the interrelation of power distance and educational choices at the micro and macro levels. At the macro level, Cheung and Chan (2008) analyzed the impact of cultural dimensions on educational expenditures and thus student academic achievement in 43 countries worldwide. They found that high power distance countries had lower educational expenditures in proportion to their GDP than countries with a low power distance index. The authors also found a correlation between the display of power and decision-making. That is, low power-distance societies involve policymakers on a rather equal level into decisional processes for the sake of general equality and a low hierarchical order in society. The studies of Rienties and Tempelaar (2013) and Cortina et al. (2017) examined the interrelation of power distance and educational integration at the micro level. Both studies found a strong correlation between low power distance and positive social attachment to the educational institutions. They also suggest that the performance of international students at the examined Dutch universities negatively correlates with the power distance scale of their respective home countries (Rienties and Tempelaar, 2013).

Allowing for stark regional differences between Northern and Southern Italy (Tavanti, 2012), Hofstede et al. (2010, p. 59) found that Italy and Hungary have a relatively low PDI (50 and 46, respectively). Based on this, it can be assumed that there is a general preference for equality and decentralization of processes in both national contexts, which stands in contrast to high power-distance contexts and the general acceptance of a hierarchical order that reflects inherent inequalities. However, in the Hungarian case, recent findings suggest otherwise.

## Contextual background: the education systems of Italy and Hungary

In order to understand the social and educational context in which the KIDS4ALLL digital educational platform was tested, we provide a brief contextual background of our analysis to outline the relevant characteristics of the education system in each of the observed countries.

In terms of public spending, the Hungarian education system (primary to tertiary level) received 3.5% of the GDP in 2020 as opposed to the 4.6% OECD average (OECD, 2023a, p. 292). As of performance, according to the most recent PISA results, Hungarian students reached around OECD-average scores in reading, mathematics, and science as well (OECD, 2023b). The most striking characteristic of the Hungarian education system, however, is its high level of inequality, especially affecting children of low socioeconomic status (SES) and Roma ethnicity (Ferge, 2017). The impact of family background on students' outcomes has been exceptionally high in international comparison for decades (Csapó et al., 2019; OECD, 2023c). On the one hand, these inequalities are explained by macro-level factors. These are structural characteristics and free school choice, leading to selectivity (Horn et al., 2016; Berényi, 2018; Radó, 2018), social and ethnic segregation (Kertesi and Kézdi, 2005; Hajdu et al., 2022). The latter is further enhanced by the general social distance kept from the "ethnicised poor" (Szalai, 2010; Váradi, 2014). On the other hand, multiple factors at the meso level increase inequality. Initial teacher training does not prepare future professionals for the education of heterogenous student groups, which makes effective inclusion highly challenging for the majority of school staff.

Moreover, teachers are expected to apply outdated, frontal teaching practice, which is applicable only in classes that are socially and culturally homogenous. This homogeneity has several detrimental consequences, for instance that it often leaves the students most in need with the least prepared professionals (Feischmidt, 2013; Nahalka and Zempléni, 2014; Lannert, 2021; Hajdu et al., 2022).

The Italian educational system builds on a similarly low public spending on education with 3.9% of the GDP (OECD, 2023a, p. 292). This hampers further already existing challenges to the enforcement of the basic right to high-quality lifelong learning (European Commission, 2018) and leads to rather low educational performance. This is also confirmed by Cheung and Chan's (2008) research, which analyzed the impact of culture on educational expenditures and thus student academic achievement internationally. They found that high power distance countries had lower educational expenditures in proportion to their GDP than their low power distance counterparts. The respective higher pupil-teacher ratio in formal education was assumed to result in the lower academic achievement of students. Indeed, in Italy, the ratio of people aged 25–64 with at least an upper secondary qualification (63%) was among the lowest in EU-27 that holds an average of 79.5% (ISTAT, 2023). Educational performance and origins of the students are also interrelated: data confirm that there is still a significant gap between the foreign-born and native population. The highest educational achievement for many foreign students in Italy remains the diploma of the "scuola media", the middle school (ISCED 2), which corresponds to the lower secondary school and thus a total of eight school years. In 2020, approx. one third of foreign students obtained a high school diploma (compared to 44% of their Italian peers) and 10% a university degree (vs. 19% of Italians) (ISTAT, 2023). Another factor in educational inequalities is the North–South divide, which affects greatly the socioeconomic, political, and cultural conditions of the country. For instance, Southern Italian regions such as Sicily stand out with 37.5% NEET-rate among young people aged 15–29 (ISTAT, 2023).

According to Hofstede (1986), the interaction between students and educational staff is deeply rooted in the cultural fundamentals of a society. Heterogenous social positions and cognitive abilities (competences) of teachers and students, the curriculum, and the expectations toward students irrespective of their background may all pose challenges. On this account, recent research has investigated the agency of power distance and (rather high) uncertainty avoidance in the Italian context. Formentelli and Hajek (2015) studied the display of power distance and hierarchy in the utilization of formal and non-formal titles for addressing teaching staff. They argue that asymmetrical power distribution "is far from being fixed and unchangeable, as roles and identities are continuously negotiated and ratified at the local level of individual one-to-one interactions, both inside and outside the classroom" (Formentelli and Hajek, 2015, p. 120). In Italy, the degree of formality in the students' approach to educational staff, as well as their affective relationship, mostly depends on the school level, i.e., the age of the students and the function of the staff (educator or teacher, hard or soft skills transmitter) in the educational scenario. This is corroborated by research from Fabris et al. (2023) who found that Italian students, depending on their school level, have different perceptions of conflict, while they reported lower conflict levels overall in comparison with their Chinese peers. Furthermore, rather than their own disobedience, they blamed conflicts on teacher-student relations. This observation was explained by a higher tolerance of dissent in Western cultures in general and a moderate pressure on students to obey and respect the authority in low- or medium-PDI countries.

The manifestation of high-power distance in the Hungarian education system is present at all levels. Since 2012, the entire education system has operated in a highly centralized way. Schools are supervised by bureaucratic school districts, reducing the decision-making potential of principals (Semjén et al., 2018), and teachers' autonomy is curtailed in professional matters as well. The National Core Curriculum (2012, renewed in 2020) promotes a conservative ideology (Neumann, 2022), regulates the content of the curriculum (focusing on subject knowledge, rather than key competences), and the choice of textbooks (Györgyi, 2015). These processes in education and the increasing control over what happens in classrooms reflects an "obsession with centralization" which "affects almost all spheres of society" (Kornai, 2015, p. 16), suggesting that in the past decade, the power distance level of Hungary has gone through a major increase. These trends are in contrast with earlier findings on a relatively low power distance in Hungary (Hofstede et al., 2010). In this environment, the freedom of teachers to adapt to student groups with diverse backgrounds and needs is heavily restricted. It has been noted that due to the dysfunction of the formal education system, "programs for the compensation of disadvantages and the creation of opportunities, running outside the public education system, are more and more necessary" (Fejes and Szűcs, 2016, p. 13). Since 2019, the government has also been allocating central budget funding for the purposes of "study halls", where marginalized children receive non-formal education after school (Fejes and Szűcs, 2019), focusing on both cognitive and social skills development. However, they have been criticized for maintaining educational segregation (their target group is specifically low-SES and Roma) and for "outsourcing the problem" to a non-formal setting, thus covering for failures of the formal school system (Kiss and Vastagh, 2021).

# Methodology

## The KIDS4ALLL project

The data that inform the present analysis have been collected within the frame of the KIDS4ALLL project. As explained in the Introduction, the project strived to strengthen the skills and abilities of young learners through a collaborative learning scheme. This framework, tested over the project, aims to facilitate the recognition and valorisation of existing competence sets of learners with heterogenous socio-cultural backgrounds and consists of three complementary learning phases, completed by buddy pairs of children.

The first and second learning phases focus on the acquisition and cultivation of (theoretical and applied) knowledge through

both frontal and interactive learning in a *peer-to-peer* relationship, i.e., both learners are exposed at the same time to the same (online and offline) contents. The third phase follows the "learning-by-doing" approach to process the generated knowledge. For this purpose, it encourages the buddy pair to elaborate their own material and subsequently present the co-created contents to younger and inexperienced peers (*peer-for-peer* activities). Accordingly, this approach implies a role-switching for each phase from learner to trainee to mentor, and challenges traditional role patterns and the didactic organization in the socio-educational field. Students may accordingly convey concepts in their own language and in their own codes, enriching them with socio-cultural experiences.

This learning approach was tested in two pilot phases in a total of eight European and non-European countries, reaching an estimated total of 1,000 students. Pilot phase 1, conducted in 2022 and 2023, lasted 6 months and was thoroughly assessed through a SWOT analysis of the feedback of local practitioners. Following this, the project team proceeded with an optimisation of learning contents and instruments. The upgraded form was tested in the subsequent 3-month pilot phase 2 (2023).

## Sampling: the Italian and Hungarian locations

For the present paper, we have analyzed data collected during the pilot phases in two countries, Italy and Hungary. They provide insight into multiple different learning contexts and student groups. In Italy, data were collected in three (ISCED 2) schools in Turin and in four schools (two ISCED 2, two ISCED 3) in Padua, both towns located in Northern Italy. Even though the activities took place in formal school settings, rather than school teachers, educators working with non-formal techniques instructed the sessions in after-school format (trained to implement and test the platform and provided learning material). Some of the participating classes had numerous children with a migration background, although in most cases these students also spoke Italian well and were often born in Italy from foreign parents. In the majority of Italian schools observed, the children were not particularly disadvantaged, although some of the schools were located in burdened neighborhoods.

In Hungary, due to its centralized nature, it is extremely difficult to introduce non-traditional educational techniques into the formal education system. Therefore, the learning framework was tested in the study halls of an NGO in the Southeastern town of Szeged and a nearby village, Balástya, one study hall in each location. Study halls host non-formal, voluntary, afterschool educational activities, in the analysis, however, we sometimes refer to rooms as "classrooms" (meaning the space in which groups of children learn together). Activities in the study halls are led by educators (with a pedagogical background and trained to test the platform) and volunteers. While in Italy participating children attended school together, in Hungary they knew each other from the study hall, where they participate in activities in small groups, arranged according to age (ISCED 2 and 3). Considering the low proportion of children with a migration background in the Hungarian education system, the KIDS4ALLL consortium opted for a student sample with different vulnerabilities to test the platform. The Hungarian children without exception came from disadvantaged environments and/or were struggling with learning difficulties. Many of them were of Roma ethnicity, however, this was consciously never mentioned by the educators in order to avoid any differentiation and to discourage the development of stereotypes.

## Data collection

Data was collected in 2022 and 2023 upon prior written consent from all study participants (and respective caretakers of minors) through observations during the testing in the study groups (27 observations in Italy, 13 in Hungary) and focus groups conducted with teachers, school principals and local stakeholders (three discussions in Italy, two in Hungary). The researchers conducting the data collection were all sociologists, working at the partner institutions of the project consortium. Throughout the data collection, they followed the KIDS4ALLL guidelines for the pilot phase. During the observations, they were instructed to pay attention to the physical environment, the didactic style of educators, as well as the way children made use of the platform, worked in buddy pairs and presented their products to their peers. Despite efforts to conduct observations in the least invasive way possible, researchers might have influenced the observed sessions in multiple different ways (such as unintentionally distracting the children or putting pressure on educators), which must be considered when evaluating the results.

It has to be noted that educators of the groups of children included in our sample approached the platform and its learning units in multiple different ways: some spent entire sessions with one theme or learning unit, while others gave more freedom to the children to choose learning unit according to their interests. Furthermore, while in the first pilot phase students worked on KIDS4ALLL content with educators, in the second phase older students (referred to as seniors) prepared activities for their younger peers (juniors).

## Data analysis

Observations were not audio- or videotaped, but researchers filled observation grids prepared by the KIDS4ALLL consortium. These included data on the number and characteristics of children, the evaluation of different dimensions (mentioned above) on a semantic differential system as well as descriptive notes. The latter, alongside transcripts of focus group discussions with professionals, provided the main basis for the data analysis. Our analytical process followed steps of qualitative content analysis, "a systematic method for searching out and describing meanings" (Drisko and Maschi, 2016, p. 87). Following immersion in the data, the texts were coded, and categories developed along the line of characterisations of children (group composition, attitudes, competences), teachers (methods, attitudes, and experiences) and the dynamics between these groups. Finally, emerging themes were arranged to answer our research questions (Erlingsson and Brysiewicz, 2017).

# Results

## Uncertainty avoidance and power distance in education

In our analysis of results from the pilot phases of the project, we focus on educators' and teachers' personal, social and learning-to-learn competences, aiming to interpret them in Hofstede's (1986, 2001) cultural dimensions framework, with a focus on uncertainty and power distance.

The ability to deal with uncertainty is a significant competence in the pedagogical profession (Hofstede, 2001; Cortina et al., 2017). Perhaps the most self-evident manifestation of uncertainty is that educators do not see the indirect results of their work for a long period of time after the work has been completed. While some development and change take place in front of their eyes throughout the weeks, months, and years they spend together with children, the impact of teachers' work lasts and resurfaces even as long as for decades. Another key manifestation of uncertainty in schools is how students and teachers deal with digital education and new types of extracurricular subjects and competences offered by an innovative educational program such as the KIDS4ALLL digital platform. Moreover, in the learning process, a tolerance of unpredictability helps both teachers and students to apply learning methods that are based on self-instruction and the individual discovery of new materials.

The power distance cultural dimension is also inherent in the operation of schools. Power distance refers to the acceptance of unequal power distribution, a hierarchical setup, and in schools a teacher-centered, strictly disciplined environment. An authoritarian or, on the contrary, more autonomous climate is not only the context in which the teaching and learning takes place. The level of power distance, may it be high or low, might be understood and applied as a pedagogical method itself that has a direct impact on the quality of learning and mastering competences.

Based on the data collected during the ethnographic observation of the KIDS4ALLL first and second pilot phases, we analyse descriptions of how educators and students handle uncertainty and power distance. We aim to understand better how these dimensions influence both educators and students while testing an innovative e-learning platform that challenge traditional pedagogy and educational routines, and how both these groups deal with a change in the two cultural dimensions in the given local and national contexts.

## Lower uncertainty avoidance, lower power distance: a challenge

Irrespective of the social and ethnic composition of learning groups, the pedagogical task of capturing the attention of children, dealing with the lack of motivation and consequent chaos was of particular interest in all ethnographic observations. Without exception, educators using the KIDS4ALLL platform adopted a non-formal style of facilitation. Their approach toward children was characterized by observers in terms of the nature of connection ("friendly," "supportive," "empathetic," "listening"), the atmosphere they attempted to create ("relaxed") and their pedagogical technique ("non-invasive," "non-directive," "playful," "engaging," "gamification"). While the educator-student relationship and the classroom atmosphere tell us more about power distance, the pedagogical approach is connected to uncertainty avoidance as well. Such a non-formal (sometimes referred to as "informal") teaching approach is in contrast with the general didactic style of formal education in both countries. The respective education systems of Hungary and Italy generally fail to include students from diverse backgrounds and would not adapt the content and methods of teaching to their needs. Educators using the KIDS4ALLL platform demonstrated significantly lower uncertainty avoidance (i.e., encouraged children to work more independently) and power distance (i.e., let children take the lead and approach them in a friendly way) than most schoolteachers in formal education. This way, they attempted to overcome the inflexible and often alienating atmosphere experienced in formal settings by the children.

Our data suggest that the learning climate developing in the KIDS4ALLL sessions as well as the behavior and attitude of students were mixed, irrespective of the didactic style. The children spend incomparably lower amount of time in this non-formal learning context than formal schooling throughout their school careers. Therefore, it is not surprising that the impact of an "empathic" approach and the greater autonomy they received was not instantly visible.

There were multiple instances described by observers when the learning process was hindered by the complete lack of order in the classrooms. As an explanatory factor, we can discover references to whether and how schoolteachers were present in these situations. In an Italian group,[3] a sharp contrast between the non-formal educators' style and the children's behavior was observed. In this case, the observer[4] pointed out that the attitude of formal teachers of the group during the session was mirrored by the students.

> *"The teaching style is always very engaging, informal, playful [. . .] However, the classroom climate is discouraging; there is no attention and respect for the educators while they speak. [. . .] [Teachers] are either absent, or they are in the corridor talking to colleagues, but they do not provide any support for the activity. [. . .] In the presence of the teacher this anarchy is somewhat diminished but left to their own devices, the children are incapable of group discipline and self-management."*

In another, more diverse Italian school,[5] similar observations were made. For two sessions, the absence of a schoolteacher caused disruptions:

3 A group of 26 children from a generally middle-class lower secondary school (ISCED 2) in Padua. The group was socially and ethnically homogenous with a few children of foreign origin who identified as Italian.

4 As explained in the Methodology section, observers were researchers of the KIDS4ALLL project who conducted the observations and filled the observation grids there were later analyzed.

5 A group of 25 children from a school (ISCED 2) that hosts mostly working-class families, immigrants and some middle-class. Six out of the 25 children had foreign parents, two were born abroad.

> *"The problem of discipline, disinterest and lack of attention is the main one; the educators' approach is very much one of support and encouragement [. . . ], but it is the class that has major problems on this front, exacerbated by the lack of a teacher. The feeling is that in the absence of an adult who is recognised as authoritative and from whom sanctions can flow, there is little or no individual responsibility."*

When the teacher was present, however, the children cooperated with the educators and each other in an exemplary way and even became significantly more proactive.

In the above-described cases, it became clear that groups of students—at least at the lower secondary level—who have been socialized in a stricter, more regulated learning environment, are struggling when they are entrusted with more freedom and autonomy without having been prepared for it. One spectacular example of this general observation when 12–13-year-old children in a Hungarian study hall were asked to create interesting learning units for the younger ones, and they could not even start the task without substantial educator support. The data suggest that the opportunity to get engaged with alternative themes and methods does not necessarily catch the attention of children, even if the educators are professional, well-prepared, and approachable and the new learning environment and materials are interesting. It clearly points out that not only the teachers, but also the students themselves find uncertainty challenging and depend on the reassuring presence of a well-known figure of authority who leads with example.

On top of the behavioral aspects of discipline, the data also indicate a connection between the level of general interest and motivation among children and their ability to work independently and cooperatively. As a blunt observation of the first Italian group described above put it:

> *"First impasse: who holds the tablet; furious discussions between students, a significant part of the time is spent with maintaining order and discipline. There is no effective technique to produce a common product, there is a lack of ideas, and there are no skills to implement them."*

In most—although not all—cases in the Hungarian pilot, but also in some cases in Italy, the children were not disruptive, however, they relied heavily on adults for reassurance, probably due to their low levels of self-esteem and confidence:

> *"With the informal, supportive style of the educators, children feel very safe and relaxed and they dare to ask questions. On the other hand, they often lose focus and become loud which needs to be handled many times during one session by the educators."*[6]

The active presence and facilitation of educators are also crucial factors both in the use of the learning platform and in the mitigation of uncertainty triggered by the novel approach of the project, especially because the learning units of the online platform were in principle designed for independent work, without the constant facilitation of the educators. However, the pilot demonstrated that educators' facilitation was essential, especially for younger learners or those with learning difficulties or social disadvantage.

> *"I think there should be somebody with each buddy pair, or at least somebody there to look after them. To what extent depends on a lot of things, which pair it is, what mood the children are in at the moment, what material they're working on, what quality it is, but it's really up to the educator to manage that somehow, while the idea behind the project is basically that the children are doing it on their own. [. . . ] and we're lucky because we've got enough volunteers and we can have somebody with each pair, but in a school environment where you've got, say, fifteen pairs and everybody's picking a different learning unit, well, there's no teacher who can pay attention to that."*[7]

Beside the increase in the intervention and guidance of the instructors, other means were applied, too, to mitigate uncertainty in both countries. Educators successfully applied the strategy (especially in an Italian case when no educator was present in the classroom in a non-formal educational setting) to select those learning units and topics that had already been discussed during the school year and thus were known by the students. In the Hungarian pilot, educators embedded the self-completion work into group activities, because fully independent work was not a realistic option in younger age groups. However, uncertainty avoidance has a side-effect that is in contrast with the core aims for the project, the enhancement of self-exploring learning. Thus, helping students not to leave their comfort zones may limit the potential advantages that the innovative learning environment might offer.

Another source of uncertainty is that, based on the experience of the pilot in both countries, some basic competences and skills that were considered as already mastered did not automatically function in a task aimed at acquiring new competences. Among these, deficits in reading, comprehension, and concentration skills at ISCED 2–3 level were particularly significant, especially affecting children from disadvantaged backgrounds or with learning difficulties. These difficulties were also widespread among students participating in extracurricular activities after a demanding school day, when their exhaustion hindered the acquisition of additional knowledge and competences. For these reasons, educators argue that learning units on the KIDS4ALLL platform should be provided with less reading text so that children could develop their skills in a truly enjoyable and successful way. However, this also raises the possibility of sub-optimal use of the platform's potential and, in general, the acquisition of competences and skills that build on each other, regardless of the platform.

## Overcoming high power distance successfully

As set out above, the decrease in the level of uncertainty avoidance and power distance in itself often failed to create

6 A group of 37 students from the Balástya study hall. Their age is unknown.

7 Leader and educator of an afterschool program in Szeged, Hungary.

a fruitful learning environment during the KIDS4ALLL pilot. However, given certain supportive conditions, challenging the well-known power distance of formal schooling had an exceptionally positive impact on classroom climate in both countries and in all age groups.

In some of the observed learning environments, it was the long-term, trust-based, close relationship between educators and children that provided the basis for the successful implementation of non-formal pedagogical practices. In the Hungarian study halls, educators and volunteers created an environment entirely different from that in formal schools: the physical space was welcoming, colorful and child-friendly, as the usual, frontal set-up of rooms was replaced by a circular arrangement, adaptable to a wide range of individual, peer-to-peer, or group activities. Children attend the afterschool sessions voluntarily, so educators pay attention to keep a relaxed, welcoming, safe atmosphere. They emphasized that this is essential for the sake of the regular attendance of children: first children need to enjoy their time, then they would become open to focus on cognitive learning, too. In these settings, when maintaining discipline, educators relied on their personal relationships with children and became a little stricter in a gentle way when it was necessary, but never referred to their position in a hierarchy and neither did they punish.

In a similar manner, it was emphasized in both the Italian and Hungarian context that in a socially, culturally, linguistically, or ethnically heterogenous environment, where many students are struggling with learning difficulties or have unconventional educational trajectories, educator-student relationships play a highly significant role. In Hungary, observers pointed out that the trust-based relationship between educators and students was the basis of cognitive development as well, and the children were given special attention when needed, even at the cost of time spent with learning. In Italy, it was reported that far from being simple "transmitters of knowledge", educators are also "mediators," "confidants," and "points of reference."

While long-lasting ties with educators certainly increase the effectiveness of pedagogy, some of the most striking findings of the KIDS4ALLL observations arose from the second pilot phase, when older students implemented activities for their younger peers (*peer-for-peer*). As a wide range of observations demonstrates, juniors received these with enthusiasm and a high level of motivation. During this activity, the seniors took the role of educators and went through the 2-fold process of competence acquisition by first learning about the KIDS4ALLL themes and methods, then passing on the knowledge and applying the methods themselves. However, developing a short learning unit for young pupils (ISCED 1) was a difficult task for the younger 'seniors' in Hungary, aged 12–14, who themselves struggled with different types of social or learning disadvantages and had hardly had any experience in an educator role in their educational careers.

Multiple positive aspects of peer-for-peer activities have been pointed out by observers. First, during the activities, competences developed among both age groups. Seniors gained self-esteem, self-efficacy, and confidence through positive feedback especially from juniors, but also from teachers. This had an especially positive impact on students "stigmatized as mediocre" because they got the chance to prove themselves in a context different from formal classrooms. Juniors, on top of extending their knowledge, received mentorship from seniors.

Second, senior students showed unexpected levels of leadership skills and preparedness when they were entrusted with autonomy and responsibility for younger peers. In a Padua school,[8] seniors worked with educators on the construction of workshops, however,

> *"they also spontaneously decided to meet among themselves to prepare the activities and lesson plans, updating and discussing how the first meetings went and what to improve, what to take away, what to add. This spirit of criticism of their own work, a mechanism to correct mistakes based on field experience was appreciable."*

Finally, the peer-for-peer activities challenged the existing power structures in schools. It was observed numerous times that juniors respected the authority of seniors and turned to them for support and advice before the educators and teachers. Despite the lower levels of power exercised by adults, the learning process was never disrupted by disciplinary issues, because the level of interest among juniors was so high and seniors "handled chaos well". Both junior and senior students proposed that such nonconventional setups could be applied in school on a regular basis:

> *"One notices a great attention on the part of the senior students to proposing a cosy and less formalised setting than in traditional lessons conducted with teachers. This aspect suggests that there may be a critical reflection on the part of the students with respect to what does not work in the ordinary way of 'doing school', also from the point of view of space management."*[9]

The KIDS4ALLL activities in both testing phases have certainly outlined potential barriers and opportunities for building a mutually beneficial learning environment for all actors involved in the educational scenario, briefly discussed in the following section.

## Conclusion

The analysis aimed to understand how an innovative e-learning platform challenges students and educators, by examining it through the lens of Hofstede's (2011) two cultural dimensions, uncertainty avoidance and power distance in non-formal educational settings in Italy and Hungary. The pilot project of the KIDS4ALLL digital platform provided an opportunity to have a deeper look into how the classroom dynamics and learning processes react to an unusual educational methodology and curriculum, which aim to challenge the traditional frontal

8 A socio-culturally heterogenous school, located in the centre of Padua, but hosting students from different parts of the city. Groups of ISCED 3-level students participated in the first pilot phase (mixed from different classes), who later conducted workshops for whole classes of ISCED 1 and 2-level peers in the second pilot phase.

9 Observation from the same Padua school as in the previous footnote.

educational setting and subjects with their inherently teacher-centered approach. Hofstede's (2011) former research revealed a high level of uncertainty avoidance coupled with relatively low level of power distance in both Italy and Hungary, however, more recent research in Hungary points to an increase in power distance in the past decade as a result of a massive centralization in education and also in other policy areas. The KIDS4ALLL e-learning platform addresses deeply rooted tendencies in education to avoid uncertainty and maintain hierarchies by offering a democratic approach and significantly decreasing and transforming the role of the teacher/educator from a powerful leader to a helping facilitator.

The pilot project was as an iterative process in which the innovative e-learning platform proved challenging for both students and educators. It took adaptation and efforts to overcome the difficulties posed by the new learning approach, despite the fact that they mostly enjoyed the new learning method and environment. Educators reacted to these difficulties by applying reasonable measures, for example, they had to be active facilitators more than originally planned in order to make the most out of learning sessions. This, however, hindered the self-exploratory approach that the platform intended to develop and might have had a limiting impact on the potential positive outcomes. On the other hand, the iterative adaptation of the new learning method can lead to the desired outcome (e.g., more independent learning abilities, improved core competences, acquiring new competences), albeit in a different way or at a different pace than expected. Moreover, the difficulties experienced by educators and children throughout the pilot phases provides important feedback to developers of innovative learning tools on how to shape these in a way that allows students to work more independently (for instance by reducing the amount of long texts). These experiences draw attention to the importance of a step-by-step approach, which must be considered when introducing novel practices in education systems that are characterized by high uncertainty avoidance.

The most important features that proved to be effective and useful during the pilot in Hungary and Italy were the democratic power-relations between students and educators, the peer-to-peer scheme offered by the buddy-method and its further development to the peer-for-peer approach, which enabled senior students to try themselves in an educator role. The child-friendly and real-life-related new curriculum and its appealing digital learning platform, embedded into a flexible, playful and child-centered pedagogical approach, were also successful. These are all complementing the traditional, formal school environment and pedagogy which, despite all developments in formal education in the past decades, can be characterized as teacher-centered and frontal, with insufficient involvement of competences, skills and digital technology related to real life.

Our analysis must be considered as limited in a number of different ways. As explained earlier, due to the diversity of the sample, a reliable comparison was impossible between the Italian and Hungarian contexts. Even though we interpreted our findings within Hofstede's framework and reflected on his earlier scores regarding the two countries, we did not measure PDI or UAI during the KIDS4ALLL project. Therefore, our analysis is based on entirely qualitative data. Our interpretation of these data is contextual and contestable and might be shaped by the researchers' academic background and study focus.

In conclusion, the KIDS4ALLL e-learning platform and its pedagogical approach have presented a novel tool for facilitating skills included in the set of Personal, social and learning-to-learn competence, such as time management, the ability to identify one's capacities and to learn and work collaboratively, despite the challenges encountered along the way. We hold that inclusive educational learning resources should be developed in accordance and in coherence with defined standards and frameworks in order to meet the wants and needs of a 21st-century education and work environments (European Commission, 2020).

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Ethics statement

The studies involving humans were approved by Ethics Board at University of Turin, Ethics Committee of the Project. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation in this study was provided by the participants' legal guardians/next of kin.

## Author contributions

TS: Writing—review & editing, Writing—original draft, Methodology, Investigation, Conceptualization. BL: Formal analysis, Writing—review & editing, Writing—original draft, Investigation, Data curation, Conceptualization. AB: Writing—review & editing, Writing—original draft, Validation, Supervision, Methodology, Investigation, Data curation, Conceptualization.

## Funding

The author(s) declare that financial support was received for the research, authorship, and/or publication of this article. The KIDS4ALLL project has been sustained by the EU Commission within the HORIZON 2020 funding scheme (Grant No. 101004807).

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note



## References

Berényi, E. (2018). "Szabad iskolaválasztás és szegregáció," in *Én vétkem. Helyzetkép az oktatási szegregációról*, eds J. B. Fejes, and N. Szűcs (Szeged: Motiváció Oktatási Egyesület), 57–66.

Caena, F., and Vuorikari, R. (2022). Teacher learning and innovative professional development through the lens of the Personal, Social and Learning to Learn European key competence. *Eur. J. Teach. Educ.* 45, 456–475. doi: 10.1080/02619768.2021.1951699

Cheung, H. Y., and Chan, A. W. H. (2008). Relationships amongst cultural dimensions, educational expenditure and class size of different nations. *Int. J. Educ. Dev.* 28, 698–707. doi: 10.1016/j.ijedudev.2007.11.003

Cortina, K. S., Arel, S., and Smith-Darden, J. P. (2017). School belonging in different cultures: the effects of individualism and power distance. *Front. Educ.* 2:56. doi: 10.3389/feduc.2017.00056

Csapó, B., Fejes, J. B., Kinyó, L., and Tóth, E. (2019). "Educational achievement in social and international contexts," in *Social Report 2019*, ed I. G. Tóth (Budapest: TÁRKI Social Research Institute), 217–236.

Drághicescu, L. M., Cristea, S., Petrescu, A.-M., Gorghiu, G., and Gorghiu, L. M. (2015). The Learning to learn competence—guarantor of personal development. *Proc. Soc. Behav. Sci.* 191, 2487–2493. doi: 10.1016/j.sbspro.2015.04.571

Drisko, J. W., and Maschi, T. (2016). *Content Analysis*. Oxford: Oxford University Press.

Erlingsson, C., and Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *Afr. J. Emerg. Med.* 7, 93–99. doi: 10.1016/j.afjem.2017.08.001

European Commission (2018). *Council Recommendation on Key Competences for Lifelong Learning (2018/C 189/01)*. Brussels: European Commission.

European Commission (2019a). *Developing a European Framework for the Personal, Social and Learning to Learn Key Competence (LifECom): Literature Review and Analysis of Frameworks*. Joint Research Centre. Publications Office. Available online at: https://data.europa.eu/doi/10.2760/172528 (accessed April 14, 2024).

European Commission (2019b). *Key Competences for Lifelong Learning*. Directorate General for Education, Youth, Sport and Culture. Publications Office. Available online at: https://data.europa.eu/doi/10.2766/569540 (accessed April 14, 2024).

European Commission (2020). *LifeComp: The European Framework for Personal, Social and Learning to Learn Key Competence*. Joint Research Centre. Publications Office. Available online at: https://data.europa.eu/doi/10.2760/302967 (accessed April 14, 2024).

Fabris, M. A., Lin, S., and Longobardi, C. (2023). A cross-cultural comparison of teacher-student relationship quality in Chinese and Italian teachers and students. *J. Sch. Psychol.* 99:101227. doi: 10.1016/j.jsp.2023.101227

Feischmidt, M. (2013). A szegregáció folyománya: kortárs és tanár-diák kapcsolatok Európa multi-etnikus iskolai közösségeiben. *Esély* 24, 53–69.

Fejes, J. B., and Szűcs, N. (2016). "A tanodaszféra és a TanodaPlatform kapcsolódási pontjai," in *Mire jó a tanoda?*, eds J. B. Fejes, M. Lencse, and N. Szűcs (Szeged: Motiváció Oktatási Egyesület), 13–21.

Fejes, J. B., and Szűcs, N. (2019). *Stabil bizonytalanság*. Available online at: http://www.tani-tani.info/stabil_bizonytalansag_vagy_optimista_jovokep (accessed April 14, 2024).

Ferge, Z. (2017). "Iskola és esélyek," in *Társadalom- és Szociálpolitika. Magyarország 1990–2015*, ed Z. Ferge (Budapest: Osiris), 188–214.

Formentelli, M., and Hajek, J. (2015). "Address in Italian academic interactions: the power of distance and (non)-reciprocity," in *Address Practice As Social Action: European Perspectives*, eds C. Norrby, and C. Wide (London: Palgrave Macmillan), 119–140.

García-Toledano, E., Gracia-Zomeño, A., Farinho, P., and Picado, L. M. C. M. (2023). Analyzing teachers' perception of the development of lifelong learning as personal, social and learning to learn competence in university students. *Educ. Sci.* 13:1086. doi: 10.3390/educsci13111086

Györgyi, Z. (2015). "Initial experiences on the introduction of centralised education management," in *Snapshot of Hungarian Education 2014*, ed A. Fehérvári (Budapest: Hungarian Institute for Educational Research and Development), 50–63.

Hajdu, T., Hermann, Z., Horn, D., Hőnich, H., and Varga, J. (2022). *A közoktatás indikátorrendszere 2021*. Budapest: KRTK KTI.

Hofstede, G. (1986). Cultural differences in teaching and learning. *Int. J. Intercult. Relat.* 10, 301–320. doi: 10.1016/0147-1767(86)90015-5

Hofstede, G. (1993). *Interkulturelle Zusammenarbeit*. Wiesbaden: Gabler Verlag.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations, 2nd Edn*. Thousand Oaks, CA: Sage Publications.

Hofstede, G. (2011). Dimensionalizing cultures: the hofstede model in context. *Read. Psychol. Cult.* 2, 1–26. doi: 10.9707/2307-0919.1014

Hofstede, G., Hofstede, G. J., and Minkov, M. (2010). *Cultures and Organizations: Software of the Mind*. New York, NY: McGraw-Hill.

Horn, D., Keller, T., and Róbert, P. (2016). "Early tracking and competition – a recipe for major inequalities in Hungary," in *Models of Secondary Education and Social Inequality: An International Comparison*, eds H.-P. Blossfeld, S. Buchholz, and J. Skopek (Cheltenham; Northampton, MA: Edward Elgar Publishing).

Hoskins, B., and Deakin Crick, R. (2010). Competences for learning to learn and active citizenship: different currencies or two sides of the same coin? *Eur. J. Educ.* 45, 121–137. doi: 10.1111/j.1465-3435.2009.01419.x

ISTAT (2023). *BES 2022. Benessere Equo e Sostenibile in Italia*. Rome: Istituto Nazionale di Statistica.

Kertesi, G., and Kézdi, G. (2005). *Általános iskolai szegregáció, I. rész. Okok és következmények*. Közgazdasági Szemle LII, 317–355.

Kikas, E., Eisenschmidt, E., and Granström, M. (2023). Conceptualisation of learning to learn competence and the challenges of implementation: the Estonian experience. *Eur. J. Educ.* 58, 498–509. doi: 10.1111/ejed.12571

Kiss, M., and Vastagh, Z. (2021). Hátránykompenzáció az iskolán kívül?: Az extrakurrikuláris intézmények szerepe és megítélése a tanulmányi eredményesség és előmenetel szempontjából. *Socio.Hu* 11, 96–121. doi: 10.18030/socio.hu.2021.2.96

Kornai, J. (2015). Hungary's U-turn. *Capit. Soc.* 10. doi: 10.1556/204.2015.37.3.1

Lannert, J. (2021). *Human Resources-Scarcity in Hungarian Public Education. Final RESERACH Report—Executive Summary*. T-TUDOK. Available online at: https://www.t-tudok.hu/files/2/kutatasi_zarojelentes_t-tudok_angol_210x297mm-2.pdf (accessed April 14, 2024).

London, M. (ed.). (2011). *The Oxford Handbook of Lifelong Learning*. Oxford: Oxford University Press.

Morón-Monge, H., and García-Carmona, A. (2022). Developing prospective primary teachers' learning-to-learn competence through experimental activities. *Int. J. Sci. Educ.* 44, 2015–2034. doi: 10.1080/09500693.2022.2108929

Nahalka, I., and Zempléni, A. (2014). *Hogyan hat az iskola/osztály tanulóinak heterogén/homogén összetétele a tanulók eredményességére*. Budapest: Oktatási Hivatal, 91–66.

Neumann, E. (2022). Education for a Christian nation: religion and nationalism i the Hungarian educaiton policy discourse. *Eur. Educ. Res. J.* 1–20.

OECD (2023a). *Education at a Glance 2023: OECD Indicators*. Paris: OECD.

OECD (2023b). *PISA 2022 Results. Factsheets: Hungary*. OECD. Available online at: https://www.oecd.org/publication/pisa-2022-results/webbooks/dynamic/pisa-country-notes/3df2ae68/pdf/hungary.pdf (accessed April 14, 2024).

OECD (2023c). *PISA 2022 Results (Volume I): The State of Learning and Equity in Educatio*n. Paris: OECD.

Radó, P. (2018). "A közoktatás szelektivitása mint a roma szegregáció általános kontextusa," in *Én vétkem. Helyzetkép az oktatási szegregációról*, eds J. B. Fejes, and N. Szűcs (Szeged: Motiváció Oktatási Egyesület), 31–55.

Rawson, M. (2000). Learning to learn: more than a skill set. *Stud. High. Educ.* 25, 225–238. doi: 10.1080/713696137

Rienties, B., and Tempelaar, D. (2013). The role of cultural dimensions of international and Dutch students on academic and social integration and academic performance in the Netherlands. *Int. J. Intercult. Relat.* 37, 188–201. doi: 10.1016/j.ijintrel.2012.11.004

Semjén, A., Le, M., and Hermann, Z. (2018). The goals and consequences of the centralization of public education in Hungary. *Acta Educ. Gener.* 8, 9–34. doi: 10.2478/atd-2018-0015

Signorini, P., Wiesemes, R., and Murphy, R. (2009). Developing alternative frameworks for exploring intercultural learning: a critique of Hofstede's cultural difference model. *Teach. High. Educ.* 14, 253–264. doi: 10.1080/13562510902898825

Sugahara, S., and Boland, G. (2010). The role of cultural factors in the learning style preferences of accounting students: a comparative study between Japan and Australia. *Account. Educ.* 19, 235–255. doi: 10.1080/09639280903208518

Szalai, J. (2010). A szabadságtalanság bővülő körei. Az iskolai szegregáció társadalmi "értékéről". *Esély* 21, 3–22.

Tavanti, M. (2012). The cultural dimensions of Italian leadership: power distance, uncertainty avoidance and masculinity from an American perspective. *Leadership* 8, 287–301. doi: 10.1177/1742715012441876

Tuschling, A., and Engemann, C. (2006). From education to lifelong learning: the emerging regime of learning in the European Union. *Educ. Philos. Theory* 38, 451–469. doi: 10.1111/j.1469-5812.2006.00204.x

Váradi, L. (2014). *Youths Trapped in Prejudice*. Wiesbaden: Springer Fachmedien Wiesbaden.

Wingate, U. (2007). A framework for transition: supporting 'learning to learn' in higher education. *High. Educ. Q.* 61, 391–405. doi: 10.1111/j.1468-2273.2007.00361.x