

Research Paper

Digital Diet and Relevant Minority Aspects during Home Preschool Education

Tünde Barabási¹, Gabriella Mária Stark²

Recommended citation:

Barabási, T., & Stark, G. M. (2022). Digital diet and relevant minority aspects during home preschool education. *Central European Journal of Educational Research*, 4(1), 121–130. <https://doi.org/10.37441/cejr/2022/4/1/10832>

Abstract

The aim of the present research is to provide an outline of the home education situation of Hungarian children enrolled in educational institutions in Romania. The research focuses on the perspective of early childhood teachers and education experts. Our objective is to identify the factors influencing the digital diet in minority preschool education and investigate whether this phenomenon, along with practices in home education, have specific distinguishing features as compared to trends in mainstream education. Approaches to digital diet and preschoolers' use of digital tools are basic components of our interpretative framework. We set out to investigate this pedagogical phenomenon in the light of minority education, considering the educational situation in dispersed and block regions. Our descriptive study, built on a questionnaire (own design), presents the good practices in home education focusing specifically on minority aspects. Our sample consisted of 403 early childhood teachers and 14 minority education experts resulting from convenience sampling. The investigation reveals a more liberal home education style. According to experts, the national regulatory framework for home education gives rise to conflicting interpretations and specific minority provisions and recommendations are less straightforward. During home education, the proportion of the areas of development and that of learning content is distorted, and the language of instruction as a factor influencing the digital diet becomes especially prominent. Research results did not focus primarily on the minority features of home education and the digital diet but rather on regional and local distinguishing features.

Keywords: minority education, digital diet, online education, home education, early childhood education

Introduction

The epidemiological situation of the COVID-19 pandemic posed a great challenge to all segments of the education system, nonetheless it was probably on the level of early childhood education that education practices had to be strongly reconsidered. On one hand this was owing to the age characteristics of preschoolers, on the other hand to the nature of education resulting from these characteristics. It is well known that preschoolers' development is best facilitated through face-to face learning and that at this crucial phase of their social and emotional development they need to spend time in the presence of their peers and have common experiences. However, besides these aspect one should also take into account the fact that the use of digital tools at the ages between 3 and 6 raises a number of questions. The right proportion has to be established so that development is aided not hindered and that it remains balanced. Early childhood education in Romania during the pandemic had to be carried out in preschoolers' homes on several occasions, while early childhood teachers and early childhood education experts were looking for solutions to ensure continuity. The present research focuses on the situation of Hungarian early childhood education in Romania during the home education period (March-June 2020; October 2020 -February 2021, with short interruptions) and the extent to which this was influenced by minority aspects.

¹ Babeş-Bolyai University, Faculty of Psychology and Educational Sciences, Department of Pedagogy and Applied Didactics, Extension Odorheiu Secuiesc, Romania; tunde.barabasi@ubbcluj.ro (corresponding author)

² Babeş-Bolyai University, Faculty of Psychology and Educational Sciences, Department of Pedagogy and Applied Didactics, Extension Satu Mare, Romania; gabriela.stark@ubbcluj.ro (corresponding author)

Theoretical framework

The theoretical framework of the current study rests on two pillars. On one hand the framework for analysing digital early childhood education is provided by the concept of digital diet, which serves as a starting point and frame of reference for online education planning and implementation. On the other hand, we focus on identifying the factors influencing minority education in order to shed light on the extent to which minority aspects had an impact on Hungarian early childhood education in Romania during the pandemic.

Experts' opinions differ on the use of digital tools in early childhood education. It can be noted, however, that very few comprehensive investigations have been carried out on certain aspects of the use of ICT tools by children aged under seven (Nikolopoulou, in Fáyné, Hódi, Kiss, 2016). The spread of the pandemic, however, prompted the development of digital learning opportunities at the level of preschool education as well, regardless of existing pedagogical approaches. Though the use of ICT tools is increasingly common in education, in the case of preschool education these were rather scarcely used up until now (Barabási, 2021). In order for these to become common practice there is a need to shape the digital knowledge and the attitude of early childhood teachers. Establishing the place and role of ICT tools in preschoolers' development raises the problem of the *digital diet* (Kennedy et al., 2021), which means that digital tools can serve the development of preschoolers but the content and time limit should be determined wisely. Yoo-Young (2020) points out that experts on children's digital media consumption agree that in this context, in the case of preschoolers, the digital content is the most important component. As long as the digital content corresponds to the age group, it serves educational and entertainment purposes, its use will not have a negative impact on personality development. The researcher also draws attention to the fact that the content should harmonize with the time factor since anything that exceeds the right proportion might overwhelm the child. Thus, in the context of home education the question of time limits and appropriate content of online education is inevitable. According to the Step by Step Center for Education and Professional Development (2020), children aged between 2 and 5 should not spend more than an hour in front of a screen. This should be done under the supervision of a parent, with whom they can discuss what they had seen. The recommendations of the American Academy of Pediatrics discussed in Hódi, Tóth, B. Németh and Fáyné Dombi (2019) are very similar: children aged between 2 and 5 should not spend more than one hour per day in front of a screen. Parents of children aged 6 and above should also place consistent limits on screen time and content as well. When considering the safe amount of screen time one should also take into account the relationship between the activities and the content (Barabási, 2021). Konok & Peres (2021) emphasize that screen time should depend on the content as well, as games that can over stimulate children and educational games do not have the same impact on children's personality development. Though using digital tools with preschoolers gives rise to certain doubts, it proved to be practically the only feasible solution for development during the home education period. Nagy (2020) proposes a number of ideas that early childhood teachers might find useful when elaborating their approach to the digital diet. Of these, we would like to draw attention to the idea that one should bring to the fore programmes, applications, interactive teaching materials, Web. 2.0 applications developed for children 3 to 7 years old, tailored to the individual needs of children and used in the presence of parents/ early childhood teachers if possible in order to develop cognitive abilities, psychological functions, socialization, creativity, creative abilities, and for children to experience art.

According to Szarka's typology (1999) the Hungarian minority in Romania belongs to the category of ethnic minority. In the case of the Hungarian minority in Transylvania we can speak of Hungarian medium of education at all educational stages, starting from kindergarten all the way up to university. Mother tongue education surfaces as an integrating factor in the case of autochthonous minorities (Ogbu, 1978).

The question arises: what makes minority education so essential? The literature provides several answers. Minority education does not only meet training and labour market needs but it also contributes to the self-worth of the minority, to the preservation and consolidation of minority identity and to experiencing, both in a subjective and objective way, the feeling of belonging to a minority community (Papp, 2012; Petres, 2009; Chiribucă et al., 2003; Péntek, 2004; Kozma, 2005). Besides churches, the public sphere, local authorities and civil societies, education plays a key role in developing and preserving a sense of identity within minority groups as it is related to the mother tongue and the native culture (Mandel et al., 2006). Investigating the minority or the mainstream education system is also essential from the point of view of the local marriage market as it plays a crucial role in ethnic socialization and partner selection. Thus, the (minority) Hungarian education network is of crucial importance to ethnocultural reproduction (Kiss, 2012).

Based on Condrón's, Heckmann's and McDonough's work Papp (2012) provides a unified system of the factors explaining the specific characteristics of minority education. He distinguishes three categories: factors

related to the education system (macro level), factors related to the educational institution (meso levels) and factors related to the individual and the family (micro level). These factors can also be categorized according to their relevance to ethnicity or minority.

Our analysis focused on meso and micro level factors. Settlement pattern and the structure of school systems (type of institution) were investigated as ethnicity-neutral factors, while language of instruction and language competencies in the official state language were studied as ethnicity-related factors.

Research methodology

The main objective of the empirical analysis forming the basis of this study was to present the situation of good practices in digital education in Hungarian early childhood education in Romania. Our research question was whether belonging to the minority had an influence on home education and whether factors related to the preservation of minority identity played a role during online education.

It was hypothesized that the pandemic period compelled early childhood teachers to adapt the preschool educational practice to the online space, and that minority education retains its features irrespective of the learning environment.

Our hypothesis is detailed as follows:

- In order for the digital diet to prevail, preschool educators consider the needs of both parents and preschoolers when setting the time frame and duration of online meetings.
- In the display of the other pillar of the digital diet, they seek to over-represent mother-tongue education in the selection of online content for the purpose of identity consolidation.
- Home preschool education was nuanced of both ethnicity-neutral (type of settlement, type of institution) and ethnicity-related factors (language of instruction, region).

Our investigation was partly based on a questionnaire devised by us. Besides the demographic data, the questionnaire contained questions related to good practices in home education (these helped in describing the situation) and we also asked for reflections on facing the professional challenges posed by the period under scrutiny. Additionally, we have carried out structured interviews with education experts. These interviews focused on decision making during home education and on the process of attitude formation. Research data was collected between June and July 2021.

Our research sample consisted of Hungarian early childhood teachers in Romania and minority early childhood education experts. A total of 423 early childhood teachers were involved in the study through convenience sampling (18.2% of the study population made up of 2324 individuals). The average age of the respondents was 40.3. Table 1 presents the data analysed based on Papp (2012) along 2 ethnicity-neutral variables (type of settlement and type of institution) as well as 2 ethnicity-related variables (language of instruction and population distribution by ethnicity in the region).

Table 1. Research Sample

Variable		Individuals	%
Type of settlement	Urban	243	57.4
	Rural	180	42.6
Type of institution	Kindergarten	161	38.2
	Day care centre	261	61.8
Language of instruction	Hungarian (exclusively minority)	222	52.6
	Hungarian, German (exclusively minority)	8	1.9
	<i>Exclusively minority</i>	230	54.5
	Hungarian, Romanian (mixed)	175	41.5
	Hungarian, German, Romanian (mixed)	17	4
	<i>Mixed</i>	192	45.5
Region	Szeklerland (HR, CV)	169	40
	Central Transylvania (CJ, MS)	117	27.7
	Partium (BH, SJ, SM)	101	23.8
	Dispersed (AB, AR, BC, BN, MM, SB, TM + B)	36	8.5
Total		423	100%

Settlement pattern was investigated as an ethnicity-neutral factor: 57.4% of the early childhood teachers work in an urban area, while 42.6% work in a rural area. As regards the type of institution, almost two thirds of the early childhood teachers (61.8%) work in a day care centre.

The language of instruction was examined as an ethnicity-related variable: 54.5% of the teachers work in exclusively minority preschool institution (Hungarian, eventually German) while 45.5% in mixed institutions, which also operate groups that use Romanian as the language of instruction. We also investigated the ethnic distribution of the region. More responses were received from the blocks (40%), as well as the competing regions (51.5%), while there were less respondents from the dispersed settlements (85%). The distribution of the region was investigated based on categories provided by the Erdélystat statistical service.

Besides early childhood teachers, 14 minority early childhood education experts were also involved in the investigation. These were selected based on the database provided by the Department of Minority Education. All counties with Hungarian preschool institutions were represented. These are: Bacău, Bihor, Bistrița-Năsăud, Brașov, Alba, Harghita, Cluj, Covasna, Mureș, Maramureș, Satu Mare, Sibiu, Sălaj, Timiș and the capital city, Bucharest. In Bucharest we interviewed a minority education consultant from the ministry, while in the counties (Bihor, Harghita, Covasna, Mureș) which have a school inspector for Hungarian early childhood education we interviewed the inspectors. In the counties (Bacău, Bistrița-Năsăud, Brașov, Alba, Cluj, Maramureș, Sălaj, Timiș) which do not have a school inspector for this particular area, or the inspector recommended another expert (Satu Mare County) we conducted interviews with the preschool methodology expert.

Results: Home education. Digital diet and relevant minority aspects

The development of good practices in home education were influenced by a number of factors. Table 2 shows the four types of teachers resulting from factor analysis, based on what factors they considered more essential. The group of *rule-followers* consists of teachers who consider national regulations and minority recommendations equally important, and whose educational practices are influenced by the good practices of the home country and the parents' expectations. The second group is the *digital* group, who consider that the efficiency of online education lies in the availability of digital tools, digital knowledge (using tools and pedagogical adaptation) and the appropriate workload for children. This approach harmonizes well with the digital diet, which places emphasis on carefully selecting the pedagogical elements suitable for the digital space, as well as taking into account children's needs when devising educational activities. Teachers belonging to the third group consider that their co-teacher, *partner* plays an essential role in ensuring the efficiency of online education. The fourth group, the *minority*, considers the language of instruction to be the most significant factor influencing the efficiency of online education (Barabási, 2021).

Table 2. The Factors Influencing Online Education (Principal component analysis, Varimax, KMO=0.802; CM=74.5%)

	FACTORS			
	Rule-follower	Digital	Partner	Minority
National regulations	.708	-.399	.102	-.267
Minority recommendations	.758	-.507	-.078	-.107
Home country good practices	.740	-.349	-.154	-.118
Parents' expectations	.672	.170	-.163	-.249
Teacher's digital knowledge	.588	.544	.175	-.034
Availability of digital tools	.621	.415	.207	-.108
Children's workload	.607	.527	-.348	.099
Co-teacher	.478	-.096	.746	.307
Language of instruction	.571	-.146	-.291	.709

Analysing the variables (type of settlement, type of institution and language of instruction, as well as region) we found that the only significant variable is that of the co-teacher: in urban settlements, in both day care centres and mixed language institutions the co-teacher factor is statistically significant. The region factor is not significant. The fact that co-teacher play an important role in mixed language institutions shows that early childhood teachers rely mostly on their colleagues belonging to the ethnic minority when it comes to cooperation. In Hungarian institutions the relationship with other colleagues is not less significant than the cooperation with the partner.

The proportion of national regulations and minority recommendations occupies the mid-point of the 5-point scale (see table 3).

Table 3. Regulations and Recommendations

Factor	Average (1–5)
Minority recommendations	2.70
National regulations	2.96
Home country good practices	3.02

According to experts the government “*formulated minimum requirements, i.e. if possible families should not be left on their own*” (7th respondent -block). The main recommendation on national level was to “*...keep in touch with the parents on some kind of platform and make recommendations*” (12th respondent -Partium). Education experts highlighted the lack of minority support in this period: “*We didn’t get anything for minority education*” (4th respondent – Partium).

Mother tongue education can be defined as a subsystem of the education system operating within a state. The extended mother tongue education comprising higher education institutions serves social integration and at the same time it requires some degree of pillarization of the society (Papp, 2012, 6).

Papp’s view that minority education is considered a subsystem of the mainstream education during the pandemic (as well) surfaces in the interviews with experts: “*...we need to be fully aligned with the early childhood education system in Romania* (7th respondent - ethnic block). Official regulations for minority education as a subsystem of the mainstream education “*were rather unvaried (for Romanian, Hungarian and German section)*” (12th respondent -Partium).

The interviews with the experts have also brought to the fore the threats to minority education: assimilation, bilingualism and difficulties in acquiring the majority language.

The threat of assimilation, i.e. blending minority Hungarian-medium education into the mainstream education, or children having to attend state language preschool groups, is particularly salient. We can also speak of reverse assimilation as due to the quality of education children belonging to the majority are enrolled into groups having the minority language as the medium of instruction. Bilingualism also emerges as a threat to minority education. This was easy to handle during offline education but during online education it became very cumbersome: “*While the problem of bilingualism was well managed within the institution, online it was terrible* (13th respondent -Partium).

The interviews with experts reveal three types of attitudes towards online education: the two extremes idealizing minority or mainstream education and the realistic middle ground:

Minority: “*I think that what Hungarian groups offered was much more colourful and varied than what Romanians offered, at least at our institution* (5th respondent- dispersed).

Realistic: “*Mostly yes, as we were in the same boat with my colleague and obviously there are some excesses here and there in both sections...*” (9th respondent -block).

Majority: “*They (Romanian colleagues) took it more seriously*” (7th respondent – block).

Table 4 presents the extent to which variables with a significant role in minority education (type of settlement, type of institution, language of instruction and region) exert their influence on certain aspects of home education. Areas marked with black show no correlation between variables and aspects of home education, while areas marked with white show a significant correlation.

Table 4. The Influence of Ethnicity-neutral and Ethnicity-related Variables on Certain Aspects of Home Education

Variable	Ethnicity-neutral		Ethnicity-related		Features
	Type of settlement	Type of institution	Language of instruction	Region	
Positive/negative experiences	NS	NS	NS	NS	–
Participation rate	NS	$\chi^2=.046$ $p^* \leq .05$	NS	NS	day care centre
Cooperation between co-teacher	$p^{***} \leq .000$	$p^{***} \leq .000$	$p^{***} \leq .000$	NS	town, day care centre, mixed language of instruction
Benefiting from experiences	NS	NS	$p^* \leq .05$	NS	Digital skills, digital knowledge: exclusively minority language of instruction
Areas of development	NS	Cognitiv area $p^* \leq .05$	NS	Social area $p^* \leq .05$ Physical area $p^{**} \leq .01$	Social area: Szeklerland
Areas of education	Music Practical activities Social education Physical education $p^* \leq .05$	NS	Practical activities $p^* \leq .05$	Romanian $p^{**} \leq .01$ Arts $p^* \leq .05$	Romanian: dispersed, Partium Rural -less cognitive
Language of application	Other language $p^{***} \leq .000$	Other language $p^{***} \leq .000$	Romanian $p^* \leq .05$ Other language $p^{**} \leq .01$	Romanian $p^{**} \leq .01$ Other language $p^{**} \leq .01$	Romanian: mixed language of instruction, dispersed, Partium Other language: town, day care centre, Central Transylvania, Szeklerland
Selecting the content	Head of institution $p^* \leq .05$ Co-teacher $p^{***} \leq .000$	Head of institution Co-teacher Colleague $p^{***} \leq .000$	Co-teacher $p^{***} \leq .000$	Head of institution $p^* \leq .05$	Head of institution: day care centre, mixed language of instruction, Partium, dispersed Co-teacher: town, day care centre, mixed language of instruction Colleague: day care centre, Partium, dispersed
Selecting the duration	Head of institution $p^* \leq .05$ Co-teacher $p^{***} \leq .000$	Head of institution Co-teacher Colleague $p^{***} \leq .000$	Head of institution $p^* \leq .05$ Co-teacher $p^{***} \leq .000$	Head of institution $p^* \leq .05$ Colleague $p^{***} \leq .000$	Head of institution: day care centre, Partium, dispersed Co-teacher: town, day care centre, mixed language of instruction Colleague: Partium, dispersed

Results show that early childhood teachers describe the period under scrutiny as a positive experience (with a 3.52 average and $p < .00001$) rather than negative (2.82). This phenomenon was not influenced by the variables significant from the point of view of minority.

As regards participation, almost half of the early childhood teachers reported that they reached more than half of their preschoolers during online education. However, 22.4% of the early childhood teachers reached less than one fourth of the children on a regular basis. The two extremes are: 6.1% of the teachers who could reach less than 10 % of the children online, and 14.1% who could reach most of the children on a regular basis. Participation rates were influenced by the type of institution variable. We found that the dropout rate was lower in the case of the children attending day care centres compared to the dropout rate of children attending kindergartens ($\chi^2=.046$; $p^* \leq .05$).

According to early childhood education experts, the participation rate in online meetings lies in the middle range: “half, or rather 40%”; “a good half”; “more than half”. We can also speak of high participation rate: “It was not always 100% but it was high” (3rd respondent); but also of a low one: “very few were present” (4th respondent).

The question was also raised as to what extent the areas of development outlined in the early childhood curriculum were covered during online education. Results show that according to early childhood teachers the area of *cognitive development and getting to know the world* was significantly more represented as compared to other areas ($t=4.10773$; $p=0.000022$; $p^*\leq.05$. – even to the closest in average, that of language-communication). The least covered area was that of the *social-emotional development*, which was significantly under-represented as compared to all other areas ($t=-2.97439$; $p=0.00151$; $p^*\leq.05$ – significant difference even to the closest in average, that of physical development). This phenomenon is fully explained by the fact that the online space is mostly suitable for gaining cognitive experiences and the least suitable for the social-emotional area. The fact that all averages are above the median value shows that early childhood teachers made a conscious effort to balance the areas of development in this specific learning environment (Barabási-Stark, 2021). Results indicate that the type of institution and the medium of instruction have an influence on the representation of the areas of development. The cognitive area was significantly more represented in day care centres ($p^*\leq.05$). As regards the region variable we found that in Szeklerland there was less focus on the *social-emotional area* ($p^*\leq.05$), while the area of *physical development* was significantly more represented here and in the dispersed regions as well ($p^{**}\leq.01$).

The interviews with education experts paint a similar picture to that of the questionnaires: early childhood teachers focused on areas of experience rather than areas of development:

(The focus on areas of development) *vanished, it vanished. They assigned a crafting activity...or a story, but I think it was the essence of the development that was lost*” (4th respondent). *“To be honest we focused more on experiences, of course there were other activities as well, but I have to say that in many cases I felt that even this was perceived as a burden by the parents”* (12th respondent).

Education experts also pointed out that the area of social-emotional development received much less attention during the online education period: *“I consider that the same scene, continually, renders the development of the child’s social competences more difficult”* (10th respondent).

As regards the representation of empirical/cultural areas in the online meetings, it is without doubt that mother tongue development received the greatest attention (with a very high 4.6 average). Mathematics and natural science came second and third respectively, with a significantly lower average than mother tongue ($t=4.78363$; $p<0.00001$; $p^*\leq.05$). Romanian – as a field of education- was represented by a relatively high average, nonetheless it was significantly lower than all the other areas, except psychomotor development ($t=3.53651$; $p=0.000214$; $p^*\leq.05$). Another area that was underrepresented is community education, which shows that the ideal environment for this is the face-to-face personal relationship (Barabási-Stark, 2021). The cultural area was influenced by several variables: the *area* variable indicated higher rates for the so called skills disciplines (music, practical activities, community education, PE) ($p^*\leq.05$); as regards the *language of instruction* we found that mixed language institutions put more emphasis on practical activities ($p^*\leq.05$); while the *region* variable revealed that Romanian is more prominent in Partium and the dispersed communities ($p^{**}\leq.01$), and arts are more prominent in the Partium region compared to other regions ($p^*\leq.05$).

Regarding the representation of the fields of study, the responses from education experts painted a similar picture to the one painted by the early childhood teachers in the questionnaires. The cognitive area of development and that of the mother tongue occupied a dominant position, while aesthetics, creativity and psychomotor skills were given less importance, mainly due to teachers experiencing discomfort.

According to education experts, the overrepresentation of the mother tongue area of development shows correlation with the identity consolidation role of minority education: *“Yes, because the top priority was for it to be in Hungarian”* (5th respondent -dispersed community).

The dominant language of children in Hungarian minority education in Romanian is Hungarian thus the acquisition of the majority language is an important issue in education policy. Opinions on Romanian language teaching differ: some education experts claim that it was completely neglected (*“I would say almost nothing”* -4th respondent); according to those in dispersed communities it went just as well as teaching mother tongue (*“Romanian and the mother tongue were represented in the same proportion, 50-50%”* -3rd respondent -dispersed community; *“It was done simultaneously, in our county there aren’t huge problems with the Romanian language”* -5th respondent.) in the ethnic block (*“mother tongue was given priority but very good ideas were born for practising Romanian”*-10th respondent).

Experts’ responses speak of innovative Romanian language teaching strategies as well: good practices during the online period included the creative use of digital games to enrich vocabulary, making audio books and tutorials *“Activities for teaching Romanian became more engaging”* (10th respondent –Central Transylvania).

As regards the aspects that are significant from the point of view of the digital diet (selecting the content and the duration of the activities) we found that these were influenced by both ethnicity-neutral and ethnicity-related variables.

When deciding on the content, the provisions of the early childhood curriculum reached a 3.9 average (on a scale of 1 to 5), which shows that a rather large proportion of early childhood teachers consciously strived to take into account the formal requirements when implementing the activities. Teachers “avidly” considered a number of other aspects as well, and even put these ahead of the curriculum. Some of these were curiosity and experience (4.3; 4.6), meeting preschoolers’ needs (4.2), which gave way even to differentiation efforts (4.0). Results show that when it came to selecting educational content, early childhood teachers put preschoolers’ “expectations” ahead of curriculum requirements. The difference between the two means is statistically significant ($t=-4.54339$; $p<0.00001$) (Barabási et al., 2021). It has also been observed that in the case of teachers in urban areas the co-teacher ($p^{***}\leq.000$) and the head of institution ($p^*\leq.05$) play a more significant role in selecting the educational content than in the case of teachers working in rural areas. Similarly, when deciding on the content, early has a prominent role ($p^*\leq.05$) in Szeklerland and in dispersed communities.

When deciding on the length of the sessions, teachers’ professional discretion and convictions played an equally important role as children’s needs, which teachers tried to meet. Represented by a lower mean, parents’, co-teachers’ and colleagues’ opinion on the duration of sessions was a similarly important factor. Recommendations from “above”, from heads of institutions or inspectors weighed the least. The professional independence of teachers is highlighted by the fact that teachers’ own discretion and professional childhood teachers working in day care centres give more heed to the head of institution and their colleagues ($p^{***}\leq.000$). Colleagues play an important role in mixed language institutions ($p^{***}\leq.000$) and in terms of regions the head of institution opinion represents a significantly higher rate in decision making than consulting with higher authorities and the recommendations made by these ($t=-20.90511$, $p<.00001$) (Barabási, 2021). The type of settlement, type of institution, language of instruction and the region have shaped the results pertaining to this aspect as well. When deciding on the duration, heads of institutions ($p^*\leq.05$) and co-teachers ($p^{***}\leq.000$) have a prominent role in urban institutions. In day care centres the opinion of the head of institution and co-teachers is deemed more important ($p^{***}\leq.000$). In mixed language institutions the opinion of co-teacher ($p^{***}\leq.000$) and the head of institution ($p^*\leq.05$) is considered more important than in institutions with a “pure” medium of instruction. As regards the regions, heads of institutions ($p^*\leq.05$) and colleagues ($p^{***}\leq.000$) play a more prominent role in Partium and the dispersed communities.

The language of applications used by the early childhood teachers is also influenced by all four factors. Hungarian language applications were most frequently used (4.4 average on a scale of 1-5). Romanian and other language application were used significantly less frequently. The use of other language applications was significantly more common in urban institution and day care centres ($p^{***}\leq.000$). Mixed language institutions used strikingly more Romanian ($p^*\leq.05$) and other language ($p^*\leq.01$) applications than “pure” language institutions. In terms of regions, the use of Romanian applications was more common in Partium and the dispersed communities ($p^*\leq.01$), while the other language applications were more frequently used in Szeklerland and Central Transylvania ($p^*\leq.01$).

Teachers consider the digital contents they have familiarizes themselves with the most valuable knowledge they can transfer to offline education and they also claim that the acquired digital skills will facilitate their professional activity in the future (3.9; 3.9). The distance education experience made early childhood teachers more convinced and/or aware of the importance of interacting with partners (parents, colleagues) (3.2; 3.5) and it brought to light different alternative ways to achieve this. From an administrative point of view, recording children’s work and planning activities turned out to be an asset that can be drawn on (3.3; 3.4). This period seems to have helped teachers to adopt an integrated and competency-based approach and experience the possibilities of its implementation (3.4; 3.5), which might become a facilitating factor in the implementation of the new early childhood curriculum in the future (Barabási, 2021). Subjecting the data to factor analysis yielded four types of teachers as regards the transfer of experiences. The first group comprises teachers who would draw on the lessons learnt in this period to achieve didactic efficiency. The second group contains teachers who consider transferrable the experiences gained during curriculum implementation. The third group consists of teachers who wish to continue a strong partnership. Teachers in the fourth group can be characterized as digital. They consider the acquired digital technical and pedagogical knowledge to be the most essential.

Table 5. Benefiting from Online Experiences (Principal component analysis, Varimax, KMO=0.913; CM=82.53%)

Benefiting from online experiences	Factors			
	1. Didactic efficiency	2. Curriculum	3. Partner	4. Digital
Cooperation between colleagues	.676	.162	.447	.228
Feedback	.749	.284	.272	.205
Systemisation, keeping record of children's work	.847	.264	.234	.146
Planning, keeping record of activities	.574	.575	.305	.135
Integrated approach	.254	.778	.257	.317
Competency-based approach	.299	.821	.230	.253
Consultation with parents in matters of education	.419	.317	.747	.174
The nature of communication with parents	.335	.256	.821	.220
New digital skills	.103	.401	.112	.787
Digital contents	.253	.121	.214	.848

Results show that early childhood teachers in minority language institutions have found much more positive outcomes they can benefit from (digital contents, digital skills, integrated approach and dialogue with parents). The other variables (type of settlement, type of institution and region) do not influence the responses. It is only the dialogue with parents that seems to be more intense in kindergartens in rural areas.

Conclusion

Investigating the home education period we have found that minority early childhood education can be deemed as a subsystem of mainstream education and it functioned as a subsystem of the national system in this particular education context as well. In line with our global hypothesis both early childhood teachers and education experts confirmed that in this period teachers had to adapt to the new situation.

Our results confirm our hypotheses about the digital diet, since as far as the period of online encounters is concerned, almost half of the kindergarten teachers were very flexible in their approach to the situation, according to the parents' schedule and needs, at different times.

Considering the ability to motivate and attention span of preschoolers, the optimal duration of the meetings proved to be half an hour, which was nuanced by variations between 5 and 40 minutes, depending on the group of children and the nature of the activity. Adaptation to parental needs is less common in the selection of online content, and efforts have been made to enforce curriculum standards by over-representing mother-tongue education.

We reject our third hypothesis, as our results shed light on the fact that adaptation to everyday life situations was independent of both ethnicity-neutral (type of settlement, type of institution) and ethnicity-related factors (language of instruction, region). Specific minority recommendation were not made for the home education period. Efforts to ensure a healthy digital diet were more characteristic of urban areas and day care centres. Minority aspects were more prominent in the context of mother tongue and Romanian language teaching. During online education, emphasis was placed on teaching mother tongue, independent of the variables under scrutiny, which confirms the identity consolidating function of minority education. Teaching the majority language (Romanian) in the block- dispersed region can be identified as a specific minority feature. Minority language teaching received less focus in Szeklerland and Central Transylvania and it was given prominence in Partium and the dispersed communities. Innovative majority language learning strategies have also started to crop up in the online environment.

Our analysis did not focus primarily on the minority features of home education and the digital diet but rather on regional and local distinguishing features.

Funding: This research was funded by Hungarian Academy of Sciences, Domus Fellowship.

Acknowledgments: We thank Johnathan Dabney for the English language editing.

References

- Barabási, T., & Stark, G. (2021). A curriculum előírásainak érvényesítése az otthonóvodáztatás időszakában [Implementation of Curriculum Requirements in the Home Education Period]. *PedActa*, 11(2).
- Barabási, T. (2021). The Situation of Online Preschool “Learning” from Early Childhood Teachers’ Perspective. *Acta Didactica Napocensia*, 14(2).
- Step by Step Center for Education and Professional Development (2020). *Cum susținem dezvoltarea copiilor preșcolari în mediul familial în timpul pandemiei de Covid-19* [Promoting Preschoolers’ Development in the Home Environment during the Covid-19 pandemic]. *Dezvoltarea-copiiilor-prescolari-3-6ani.pdf* (stepbystep.ro)
- Chiribucă, D., & Magyari, T. (2003). “The Impact of Minority Participation in the Romanian Government”. In M. Robotin & L. Salat (Eds.), *A New Balance: Democracy and Minorities in Post-Communist Europe* (pp. 73–97.) LGI Books.
- Fáyné Dombi, A., Hódi, Á., & Kiss, R. (2016). IKT az óvodában: kihívások és lehetőségek [ICT in the Kindergarten: Challenges and Opportunities]. *Magyar Pedagógia*, 1, 91–117.
- Hódi Á., Tóth E., B. Németh, M., & Fáyné Dombi, A. (2019). Óvodások IKT-használata otthon – szülői minta és szerepvállalás [Preschoolers’ Use of ICT at Home -Parenting and Involvement]. *Neveléstudomány*, 2, 22–41.
- Kennedy, J., & Hupert, N. (2021, February 2). *Using Digital Media to Support Early Learning*. Edutopia. <https://www.edutopia.org/article/using-digital-media-support-early-learning>
- Kiss, T. (2012). Demográfiai körkép. A kisebbségi magyar közösségek demográfiai helyzete a Kárpát-medencében [Demographic overview. The Demographic Situation of Minority Hungarian Communities in the Carpathian Basin]. *Educatio*, 21(1), 24–48.
- Konok, V., & Peres, K. (2021). *Hagyjam vagy ne hagyjam? A „kütyüzés” hatása a gyerekekre* [Shall I Allow or Not? The Effects of Gadgets on Children]. *Mindennapi pszichológia*. <https://mipszi.hu/cikk/200919-hagyjam-vagy-ne-hagyjam-kutyuzes-hatasa-gyerekekre?fbclid=IwAR1JfN3QHRwKzUZxBU97iJiQO-GPoVodGzyGu7C7J2eoCYeK0UFI7f7Q3mLs>
- Kozma, T. (2005). *Kisebbségi oktatás Közép-Európában* [Minority Education in Central Europe]. Új Mandátum Kiadó.
- Mandel, K., & Papp, Z. A. (2006). A nemzeti identitás megőrzésének, megújításának intézményrendszere [The Institutional Framework for Preserving, Renewing National Identity]. *Magyar Kisebbség*, 10(3–4), 91–114.
- Nagy, I. M. (2020, March 30). „Óvakodj a törpétől” avagy kora gyermekkori digitális pedagógia a járványidején is #maradjotthon [Beware of the Dwarf” or Early Childhood Digital Pedagogy during the Pandemic #stayathome]. *Modern Iskola*. <https://moderniskola.hu/2020/03/ovakodj-a-torpetol-avagy-kora-gyermekekori-digitalis-pedagogia-a-jarvany-idejen-is-maradjotthon/>
- Ogbu, J. (1978). *Minority Education and Caste. The American System in Cross-Culture Perspective*. Academic Press.
- Papp, Z. A. (2012). Kisebbségi magyarok oktatási részvételének értelmezési lehetőségei [Possible Interpretations for Minority Hungarians’ Participation in Education]. *Educatio*, 21(1), 3–23.
- Péntek, J. (2004). A romániai magyar felsőoktatás helyzete és kilátásai [The Situation and Outlook of the Hungarian Higher Education in Romania]. *Kisebbségkutatás*, 13(1), 76–85.
- Petres, A. (2009). A kisebbségi felsőoktatás szimbolikus jelentősége. Felsőoktatásról szóló diskurzusok a romániai magyarok között 2007-ben [The Symbolic Significance of Minority Higher Education. Discussions on Higher Education in the Hungarian Press in Romania in 2007]. In E. Kötél & L. Szarka (Eds.) *Határhelyzetek II*. Balassi Intézet Márton Áron Szakkollégium.
- Szarka, L. (1999). A közép-európai kisebbségek tipológiai besorolhatósága [“Typological Classification of Central European Minorities”]. *Kisebbségkutatás*, 8(2), 168–175.
- Yoo-Young, K. (2020, November 9). Your Child’s Digital Diet – Three Key Points. Parentune. <https://www.parentune.com/parent-blog/your-childs-digital-diet-three-key-points/4528>

