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**EXAMINATION OF THE COMPLEX BASIC
PROGRAMME FOCUSING ON THE DIGITAL PEDAGOGY**

Theses of doctoral (Ph.D.) dissertation

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Topic and structure of the dissertation

Based on our current knowledge and experience, the social impact of digitalisation exceeds the mind-altering power of any previous technology. The spread of the internet and portable online devices, and the increasing degree of automation, are not only affecting everyday routine actions - communicating, reading, travelling, shopping - but are also contributing to the emergence of new forms of knowledge transfer and learning.

As a result of technological progress, by the 19th century it had already become clear that the development-oriented approach of the capitalist economic and social model, which built on the achievements of the industrial revolutions, required a uniform minimum level of knowledge for all through the school system. In the prevailing socio-economic constellation of the 20th century, both individual and societal interests demand that access to the knowledge that underpins the quality of life in the postmodern age, beyond the development of basic skills, be equally guaranteed. This requires not only individual discretion, but also the coercive power of the state through legislation. This is reflected in compulsory schooling and compulsory school age and in the special attention given to the problem of early school leaving.

These exciting and cross-fertilising processes, also from a research point of view, have created programmes that use contemporary technology to strengthen school engagement, fuelled by motivation to learn, in an effort to reduce the risk of early and incomplete school leaving and thus drop-out rates.

Early school leaving is also a key issue for EU countries. That is why Member States have set themselves the target of reducing the number of early school leavers below 10% by 2020 and 9% by 2030 (European Commission, 2010). To this end, they have joined forces to launch programmes that can help achieve these targets.

"Methodological innovation in public education to reduce early school leaving without qualifications" (EFOP-3.1. 2-16-2016-00001, Complex Basic Programme) aims to have an impact as a preventive intervention programme to reduce and prevent early school leaving by developing and disseminating learning support pedagogies, providing training, methods and content for continuing education to promote pedagogical change and supporting participating institutions (Révész, K. Nagy, & Falus, 2018).

The direct target groups of the project were teachers, while the indirect target groups were pupils in primary education who were identified as being at risk of early school leaving.

My research area is the social and economic impact of digitalisation, with a particular focus on the impact on the education system. The Digital Based sub-programme of the Complex Fund programme has attempted to increase motivation to learn by integrating online tools and programmes into educational processes, thus promoting school engagement. The programme's completeness is revealed by the combined implementation of the sub-programmes, which are based on specific pedagogical methodologies, making it difficult to separate the measurement of the impact of the Digital Sub-programme from the programme as a whole. At the same time, there is a great need within the field of educational theory to validate multi-polar theoretical approaches to the conditions and effects of digital pedagogy through practical measurement, which has necessitated the development of a research design to demonstrate these effects.

The aim of my research was to look at the Complex Basic Programme in its entirety through the lens of the digital sub-programme, so my sample was based on institutions that had already joined the programme in the pilot year. This allowed me to analyse student data collected over two academic years, using as an intervention focus group those who participated in the digital sub-programme sessions and a control group of students who chose a different sub-programme or attended a school that did not engage in the project. I interpreted the changes in the scale scores of the study dimensions - positive feelings about school, motivation to succeed in school, and digital asset use for general and learning purposes - generated by principal component analysis by placing them in the context of the programme's operational environment.

Theoretical background of the research

The theoretical underpinning of the concept of the Digital Sub-programme of the CAP is based on the conceptual framework of digital transformation in schools (Czirfusz et al., 2018; Racsco, 2017), with a particular focus on digital competency models for students and ICT literacy of teachers.

In my thesis, I organised the exploration of the theoretical background around a conceptual approach to digital pedagogy. The effects I want to investigate in my research are primarily manifested in a pedagogical context, so the teaching-learning connotation of the digital transition across institutions is of crucial importance in my interpretation. From this perspective, I considered it important to investigate the integration of the tools and solutions provided by technological developments into didactic systems and, consequently,

to define the conceptual boundaries of digital pedagogy. The presentation of studies on the developmental and negative effects of the use of tools embedded my own research findings.

There is a considerable amount and scope of national and international literature on the role that technological change, and more narrowly digitalisation, plays or is intended to play in educational systems and its impact on the teaching and learning process. The majority of these papers are theoretical, fewer are based on scientifically rigorous research that confirms the impact of digital pedagogical tools and methods on learners, while the impact of technological developments on the learning process is more limited.

Research findings and practical experience are constantly being incorporated into pedagogical practice, opening up new areas for analysis in this fast-changing, unpredictable, complex, contradictory VUCA world (Szűts, 2020).

This variability justified the use of a systematic methodology for processing the relevant literature, which examines the papers published in the period of my empirical research, between 2019-2022, by searching the ScienceDirect database for international (mainly English) literature, ResearchGate for domestic studies, and Eric for mixed Hungarian and English results. I focused in particular on articles available in the Repository of Hungarian Scientific Works. I selected the top ten hits from the list in each segment based on the relevance to my research area. This processing method allowed me to detect trends in thinking that are reflected in the number of articles, the thematic focus and the concepts used and constructed. The number of items also characterises each field of study, showing the scientific relevance of the topic. The table below shows the literature items by database and by theme, with the number of items adjusted for the filtering criteria used for each search page in brackets.

Search interface	Specific criteria	Interpretative frameworks	Developmental effects	Hazards & Risks
ScienceDirect (articles in English)	Type of article, area of science	2817 (772)	7392 (1919)	377 (250)
ResearchGate (articles in Hungarian)	Has citation	690 (186)	450(123)	90(32)
Eric.ed.gov (articles in English and Hungarian)	Preview, full text	1424 (151)	5083 (1064)	522 (343)
MTMT	Has independent citation	230 (128)	87 (51)	9 (9)

Table 1. Frequency of occurrence of the examined objects in each database (self-made)

There is an exact literature on school attachment, learning attitudes and early school leaving, so in this chapter I have not processed the literature according to a methodology similar to digital pedagogy, which does not have fossilized interpretations due to the dynamics of technological change, but I have chosen the definitions on which I have based my research by exploring the conceptual boundaries with a broad horizon.

The similarities between the different models of school attachment can be summarised in the following components: quality of peer relationships, involvement in peer relationships, individual learning characteristics (preferences, level of self-regulation, learning goals), views on learning (relevance, importance of learning), different aspects of the teacher-student relationship (communication, partnership, assessment).

The present research uses the concept of school attitude to describe the attitude towards school, which has three components: affective (evaluative), cognitive (view/belief) and behavioural (action/attitude) (Şeker, 2011, cited in Czető, 2022).

Questions and hypotheses of the research

The measurement of the impacts identified in the research objectives was based on a combined methodology, where quantitative measures were predominant. The research questions in each area and the corresponding hypothesis confirmations were based on these analyses; for the qualitatively recorded data explaining the background factors, I only formulated research questions, in accordance with the specificities of the method.

In the hypotheses, I used the terms 'effect' and 'influence' and 'effect' (Turós, 2022, p. 28), and 'moderating effect' in the interpretation of covariance.

I. The operational environment of the Digital Sub-programme of the Complex Basic Programme

I.1. Context of the sub-programme

The implementation of the intervention programme and the achievement of the expected effects are largely determined by the environmental elements that characterise each school. In line with the research focus, I identified three attributes of the environment: the methods of school organisation, the availability of facilities and the availability of staff.

The question I sought to answer in this subsection of the environmental dimension was how these boundary conditions influence the successful implementation of the programme.

Q1: Within the school organisation of the institution, how were the sub-programme activities integrated into the day-to-day running of the school?

Q2: To what extent are the physical conditions for the implementation and operation of the Digital Agenda in the institutions ensured?

Q3: How are the staffing conditions for the implementation and operation of the Digital Agenda ensured?

I.2. Management perception of the impact of the sub-programme

The operational functioning of schools is to a large extent determined by the personality, habitus and leadership attitude of the head of the institution, which may also have an impact on the effectiveness of the programme promoting methodological innovation. The effects perceived by the heads of the institutions can determine the quality of the implementation of the programme and the achievement of the expected results. In this segment of the study, I seek to answer the question of what characteristics can be identified in the effects on learners and teachers, with a particular focus on the fault lines of digital work-based education.

Q4: What are the characteristics of the impacts on pupils perceived by the heads of the institutions?

Q5: What are the characteristics of the perceived effects on teachers by the heads of the institutions?

Q6: How has digital work-based learning influenced the implementation of the programme?

II. The impact of the digital sub-programme on pupils' use of digital devices for general purposes

One of the main objectives of the Digital Agenda is to develop the conscious use of devices by learners, distinguishing between the general and learning aspects. The general use builds on the use of digital solutions for everyday life, aligned to Domain 1 of the DA Programme's ICT literacy model, technological literacy, ways of using devices, and Domain 4, responsible use of information, developing legal, ethical and personal safety usage patterns. This aspect is also reflected in the development areas of digital citizenship relating to information literacy and literacy. In this dimension, I will examine the mainstreaming of the above development aspects.

Q1: How does the general digital device use of boys and girls change in the first two years of the programme in the context of participants in the digital sub-programme, other sub-programmes and control schools?

H1/1: Participation in the Digitally Based sub-programme has a positive impact on students' general purpose, conscious digital device use.

H1/2: Pupil gender has a differentiating effect on general purpose, conscious digital device use.

H1/3: At-risk rates of institutional pupils moderate general purpose digital device use.

III. Impact of the Digital Based sub-programme on students' digital device use for learning purposes

The development priority of the Digital Agenda is to make digital solutions available to students in a way that enhances their motivation to learn and that can complement traditional teaching methods to make learning more experiential. This effort is in line with areas 2 and 3 of the DA programme's ideal of ICT literacy, namely the cognitive aspect, ways of organising and integrating content, and the social aspect, cooperation and communication skills. All this is linked to the development areas of digital citizenship technological literacy and responsible use of tools, network participation and network cooperation. In this dimension, I will look at the implementation of the above aspects.

Q2: How does the use of digital tools for learning by boys and girls change in the first two years of the programme in the context of participants in the digital sub-programme, other sub-programmes and control schools?

H2/1: Participation in the Digitally Based sub-programme has a positive impact on students' use of digital tools for learning.

H2/2: The gender of the learner has a differentiating effect on the use of digital tools for learning.

H2/3: The at-risk rate of institutional pupils moderates the use of digital devices for learning.

IV. The impact of participation in the Digital Agenda on pupils' positive feelings about school

The primary target group of the intervention programme is teachers, but it aims to achieve its impact by increasing pupils' engagement in school and thus reducing early school leaving. Therefore, in line with EU expectations, the indicator can be considered as a positive change in pupils' feelings about school as a predictor of early school leaving. In a control group design, I look for detectable short- and medium-term effects of the programme, especially the digital sub-programme, filtering out gender differences.

Q3: How do boys' and girls' positive feelings about school change in the first two school years of the programme in the context of the digital sub-programme, the other sub-programmes and the control school participants?

H3/1: Students' feelings about school are positively affected by participation in the Digital Based sub-programme.

H3/2: The change in students' positive feelings about school is not influenced by the duration of participation in the Digital Based sub-programme.

H3/3: The gender of the student has a differential effect on positive feelings about school.

H3/4: The degree of riskiness of the implementing school moderates positive feelings about school.

V. The impact of participation in the Digital Agenda on students' motivation to succeed in school

The presence or absence of motivation to succeed in school can also be a predictor of early school leaving. While the previous dimension was more related to general feelings about school, this dimension now looks at attitudes related to specific school performance, assuming that the experience of success increases learning and thus engagement in school. This expectation is particularly strong in relation to the use of digital pedagogy.

Q4: How do boy and girl students' motivations to succeed in school change in the first two academic years of the programme in the context of participants in the digital-based sub-programme, other sub-programmes and control schools?

H4/1: Students' motivation to succeed in school is increased by participation in the Digital-based sub-programme.

H4/2: Students' motivation to succeed in school is not influenced by the duration of participation in the Digital Based sub-programme.

H4/3: The gender of the learner has a differential effect on motivation to succeed in school.

H4/4: The degree of risk of the implementing school moderates motivation to succeed in school.

Methodology of the research

As a possible pedagogical-methodological solution for the prevention of early school leaving, the Complex Basic Programme, like all educational processes, has a multi-component system of effects with different degrees and directions. The complexity of pedagogical processes from a research perspective also requires that we delineate the constructs that we intend to and are able to measure. Although teachers are the primary target group of the intervention programme, it aims to strengthen school engagement through their training and the methodology they use to enhance students' learning attitudes and motivation. The implementation of this approach is influenced by a number of effective and latent background variables, among which the feasibility of the research also requires a choice. These limiting factors have necessitated the development of a research methodology that can detect impacts that can be linked to the intervention programme and, in particular, its digital sub-programme.

The research model had the following characteristics that ensured that the measurement could be carried out and the impacts detected:

- The study is primarily time-factor based; I analyse data collected in a total of four semesterly periods, typically adjusted to the school year, starting from the introduction of the programme, separating the effects in the school year of introduction (pilot) and those spanning the following school year.

- In the pilot year, I distinguish between a pilot and a control group based on participation in the programme. Schools not involved in the intervention programme were only available in the year of implementation.

- For the longitudinal studies, I grouped students into those who participated in the Digital-based sub-programme (which I further differentiated based on the duration of participation) and those who chose another sub-programme, thus providing a control group for the second school year study.

- I obtained the variables necessary to sub-sample the study sample from two sources (Falus & Ollé, 2008).

- I looked for significant differences between the sub-samples generated within the framework of the four dimensions selected from the questionnaire on learning attitudes using principal component analysis.

- Among the demographic background variables included in the questionnaire, the gender of the learners was one of the grouping criteria. Based on the Education Office database, I assigned to each pupil an indicator based on the proportion of pupils from disadvantaged and severely disadvantaged groups and pupils at risk of early school leaving in their school.

- I considered as moderator variables those variables that influence the variability of the model.

- The quantitative results are presented in the context of the institutional framework conditions for the implementation of the sub-programme under study, as revealed by the qualitative analysis of the interviews with the managers.

- Based on the variables revealed, I created clusters of cluster analysis through statistical analysis, which I used to plot further research directions.

Following Sántha's (2015) division, the research follows the methodology of the Mixed Methods. Combined Methodology studies employ both quantitative and qualitative techniques in a parallel or sequential manner.

The research presented in this thesis follows Cameron's (2011) line of thinking and collects, analyses, combines and concludes quantitative and qualitative data within a single project. The research fits the characteristics of the embedded model as follows:

- Quantitative (student questionnaires) and qualitative (interviews with heads of institutions) data were collected sequentially in a two-phase data collection process, but not rigidly separated from each other.

- The dominant research element was the student questionnaire survey, which was nuanced by the information obtained from the analysis of the management interviews (concurrent nested strategy).

- The data were evaluated using the Nested Design model, justified by the characteristic that the secondary methodology (analysis of the management interviews) has only a complementary role, embedding the interpretation of the primary data set in its results.

	Changes in the attitude of the pupils				Institutional implement of the digital subprogramme	Institutional background variables
Examined constructa	Device usage for general purposes	Device usage for learning purposes	Positive feelings towards school	school success motivations	Organization Material conditions Human conditions	rate of disadvantaged and cumulatively disadvantaged pupils; rate of early school leavers
					Percepted impacts	
Applied measuring tools	Attitude Examination in the survey Principal Component Analysis, PCA				Half-structured interview	Indicators based on the Educational Office
Method of analysis	Repeated, four-point, mixed, ANCOVA by independent samples				A priori and open coded text analysis (MAXQDA)	Co-variance analysis
Examined Period I.	Pilot academic year (2018/2019)					
Research arrangement	Examination group		Control group		Personal interviews	Data analyses
Data collection	October 2018 May 2019				October 2018 February 2019 May 2019	Based on the data of academic year 2017/2018
Examined Period II.	Post-pilot academic year (2019-2020)					
Research arrangement	Examination group				Personal interviews	Effects of digital education during Covid
	No DSP-participants	one term DSP-participants	two term DSP-participants	three or more term DSP-participants		
Data collection	January 2020, September 2020				May 2020	
Setting of new research fields	Cluster analysis of the best achieving pupils					

Table 2 Research methodology (self-drafted)

Theses

Thesis 1.

A homogeneous supply of tools and software at institutional level is a prerequisite for the effectiveness of digital pedagogy.

The institutions included in the research are characterised by a heterogeneous supply of material tools, similar to the experience of studies describing the international situation (Hedger, 2022). Unequal access to tools, whether school-owned or privately owned, and to reliable interconnection can contribute to the marginalisation of some learners and to the growth of existing learning inequalities (Carnelli & Dreesen, 2022). During the period of

distance education, the problem was magnified when, partly due to inadequate provision of resources, some learners were lost from the public education system. The proportion of this is difficult to estimate because of the specific nature of the phenomenon, but it is possible to get an idea of it from the management interviews conducted after the quarantine period.

Digital pedagogical methods can achieve their impact mainly through the use of portable devices, which can be freely adapted to the pedagogical objectives of the changing context. At the same time, they are also the closest to the everyday use of tools and can therefore also have the effect of improving the conscious use of tools. In order to achieve the latter objective, it is necessary to involve in the development process software and application development companies with significant knowledge and references, making them interested in participating in the development process. With a view to long-term sustainability, it is necessary to qualify the selected software for inclusion in the public education system through a rigorous validation process.

Thesis 2

Achieving the impact of digital pedagogy requires a supportive leadership attitude and an innovative and creative teaching profession.

Teacher training in the Digital Agenda sub-programme has ensured that the institutions implementing the programme, irrespective of their educational background and subject area, have the human capital to apply digital pedagogy in a value-added way. In the field of teaching and learning, it is essentially a question of attitude to learn to use most of the programmes easily and creativity to integrate them into the teaching-learning process. The impact on teachers manifested itself during the spring 2020 distance learning period. The content elements that emerged in the training of the Digital Based sub-programme, were revealed as a result of a unique constraint. Professional and methodological collaboration between teachers has improved significantly, but the extension of collaborative learning to students has lagged behind, in many cases despite the provision of digital edge conditions. The attitude dependency and autonomy needs of the use of online tools, as important underlying principles of the sub-programme training, were also realised during the months of quarantine for the teachers involved in the implementation.

Thesis 3

The use of digital devices for general and learning purposes by pupils is affected by participation in the CAP Digital Based sub-programme, regardless of their gender.

Participation in the Digital sub-programme has a significant effect on general digital device use at both time points examined in the pilot year ($p < .001$, $p = .008$) and in the following academic year of sub-programme participation ($p = .008$) as well as on learning device use at all data collection points ($p < .001$); however, this relationship is no longer observed in the time dimension. The sub-programme explicitly requires and encourages tool use, but its impact goes beyond the scope of the session. Participants are presumably also willing to use digital devices in their non-school activities.

No gender impact can be measured in either period. There are implicit perceptions that boys prefer to engage in technical activities, but that digital device use, especially in the so-called "digital devices", is more likely to be more popular. "However, digital media use, especially smartphones, are nowadays primarily not technical but rather utilitarian objects.

Thesis 4

Institutional exposure rates moderate both general and educational digital device use. Vulnerability moderates general digital device use ($p = .008$) at both data collection points in the pilot year. In the time dimension of the longer-term studies, the interaction of vulnerability is significant ($p = .044$). Spearman correlation indicates that the association is significant between the third (January 2020) and fourth (September 2020) data collection periods: ($r = -.098$ $p = .021$).

The correlation between the institution's at-risk score and overall digital device use tends to be negative, i.e., by the 4th semester of participation in the programme, there is a slight decrease in device use among students with higher at-risk scores, which raises the question of whether the effects are sustainable.

Although there is only a trend level interaction of time and vulnerability main effects for the use of digital devices for learning in both study periods ($p = .061$; $p = .06$), a Spearman correlation ($r = -.084$ $p = .06$) measures a weak negative effect with a trend level. While the pilot year study showed a trend-level correlation between the at-risk measure and digital device use for learning at the first and second data collection time point, the change between the two periods became negative, making the result relative and only meaningful for the given time point.

Pearson's correlation post hoc analysis shows that, when looking at the whole sample, pupils attending school with a higher risk score had higher rates of digital device use for learning purposes at both the first (October 2018, $r = .151$ $p < .001$) and second (May 2019, $r = .092$ $p < .001$) data collection dates. There is a positive weak correlation on both measures. This is an important reflection of the programme's ambition to use digital tools for learning to help retain students who are disadvantaged or at risk of dropping out.

Thesis 5

Participation in the Digital Based sub-programme, regardless of its duration, does not affect students' positive feelings about school. Consistent with the cited literature, students' positive feelings about school significantly decreased within school year ($p < .001$) and across school years ($p < .001$) for all subsamples. Neither the Complex Basic Programme as a whole nor its individual sub-programmes were able to blunt this trend. The change in emotional attitudes, which are a major determinant of school attachment, was in line with international trends in both time dimensions examined (Józsa, 2009).

The duration of participation in the Digital-based sub-programme also did not affect ($p = .251$) the development of positive feelings about school. However, the effect of participation in the DA program was not significant, but was found to be trend-like ($p = .06$) in the pilot year (not in the interaction of time), which could be considered as an anticipatory confidence on the part of the students. Participants in this subprogramme tended to have a more positive attitude towards school than other subprogramme participants or control group members. Unfortunately, this advantage disappeared by the second school year. Realising this potential could be an important objective for school development in the coming years.

Thesis 6

Student gender is a differentiator of positive feelings about school. Student gender significantly affects positive feelings about school in both the one-year ($p < .001$) and two-year ($p = .001$) studies, thus acting as a differentiator. All the literature cited in the theoretical section (Józsa 2009; Józsa and Fejes, 2012) shows that girls have more positive attitudes towards both learning in general and school as an institution.

Thesis 7

The extent to which the implementing school is at risk moderates positive feelings about the school. The level of school threat in the pilot year moderates positive feelings about school in both time periods examined ($p < .001$, $p < .001$). The moderating effect was confirmed by Spearman correlation ($p < .001$). A significant correlation was found at all time points ($r = .173$ $p < .001$; $r = .185$ $p < .001$; $r = .162$ $p < .001$; $r = .154$ $p < .001$). A notable result is that a positive - albeit weak - correlation between being at risk and positive feelings about school was found at all time points. This result could be used as a basis for future programmes that could increase school engagement.

Thesis 8

Students' motivation to succeed in school is not affected by participation in the Digital-based sub-programme, regardless of its duration. Students' motivation to succeed in school decreases across all subsamples, both in the one academic year ($p < .033$) and two academic years ($p < .001$) time span, regardless of participation in the program. The effect of participation in the Digital-based sub-program is not significant ($p = .868$). The duration of participation in the Digital-based sub-program also does not affect ($p = .682$) the trend in motivation to succeed in school.

Thesis 9

Vulnerability moderates motivation to succeed in school. Vulnerability moderates the change in motivation to succeed in school at both the one-year and ($p < .001$) and time series ($p < .001$).

The moderating effect of vulnerability on school success motivation was confirmed by Spearman correlation at all data points ($r = .097$ $p < .001$; $r = .189$ $p < .001$; $r = .116$, $p = .006$; $r = .153$ $p < .001$).

Programme participation alone cannot mitigate negative changes in students' motivation to succeed, but the positive correlation between vulnerability and motivation to succeed in school suggests that targeted programmes - not necessarily linked to DA participation as the study suggests - can be found to enhance the effect in this target group.

Summary

My primary objective, to measure the impact of digital pedagogy with data - taking into account the limitations of the study - has been achieved.

The research has demonstrated that the success of a pedagogical intervention programme cannot be separated from the environmental characteristics in which it seeks to have an impact. This has both manifest and implicit aspects. Digital pedagogy, by its very nature, necessarily requires the existence of tools and software that are in line with the latest technological trends and that operate safely and sustainably. In this respect, it is crucial that programmes to develop content and equipment are in line with each other and with the legislation and regulatory documents governing the operation of schools.

The teacher is a key player in the teaching process; although his or her role has varied in different didactic periods, it is the impact of connectivism that has changed the nature of his or her work most significantly. His role as a communicator of knowledge has disappeared, and his role has become more validating, where he has to act as an authentic person who provides the reference points for the discovery, interpretation and constructivist processing of information, the most important resource in contemporary society. This task requires a change of attitude, brought about not by internal but by external pressure. It is important to explore how the experience of digital work-based education has induced changes in the individual actors and what these effects have been, beyond short-term solutions, to sustainable elements.

But the most important thing is what happens to the learner in the meantime, how their development is affected by the pressures of digitalism from many directions. The research has not been able to demonstrate that the introduction of online solutions into the world of education can have an impact on trends and tendencies whose magnitude and direction are determined by a multitude of factors, the number of which can only be partially known, but it has been possible to identify results that allow cautious conclusions to be drawn about the potential for development using digital pedagogy tools, particularly for children in schools with a high risk profile.

Impacts of the achievements

As with any process that relies on human thought, pedagogy is particularly affected by an extremely complex set of predictors and effects. Measuring the impact of individual interventions, methodological innovations and developments is only possible by building a model with a finite number of variables.

The formulation of the problems, the research questions, the definition of the constructs to be measured, the choice of methodology reflect the researcher's habitus and, therefore, despite all efforts to objectify, will necessarily be subjective. This is why the impact of the Complex Basic Programme needs to be examined from many different angles, because only in this way is it possible to get closer to understanding the world of schools.

Even with these limitations, my analysis may contribute to the evaluation of the results of the Complex Basic Programme as an educational methodological innovation in the intersection of digital trends (Pajtókné, Révész, & Szűts, 2021) and may induce further research.

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