Theses of Doctoral (PhD) Dissertation

Learning Paths of Hungarian Minority Teacher Students (A Comparative Approach)

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1. The aims of the dissertation, delimiting the topic

The dissertation portrays the learning paths of Hungarian teacher students from Transylvania adopting a comparative approach, and outlines the context and system of Hungarian teacher education in Romania between 2011-2016. We find the question of teacher education in the region of Transylvania an important one since according to analysts teacher education has an impact on the future of the society in the Carpathian basin (Pusztai – Ceglédi 2015: 10), i.e. also on the future of Transylvania.

Teacher education is approached as an explanatory factor for minority education, it is analyzed from the perspective of minority learning paths (Papp 2012a), bearing in mind that teacher education plays a role in raising the intellectual elite of local communities. Learning paths are approached as educational paths comprising different stages/levels and learners have to take a decision at each stage. Following Papp (2012 a: 14–15, 2012 b: 405) the dissertation presents three representative learning paths based on the majority-minority relationship, as well as, on the ethno-political and minority policy context: (a) an entirely minority learning path, minority education is preferred continually when passing from one educational stage to another, (b) the majority path, which carries the potential for assimilation, and (c) the changing paths. Apart from learning paths the interpretive framework of the present dissertation also includes regional universities (Kozma 2005).

The analysis of Hungarian teacher education in Romania has been divided into three categories: (1) analysis focusing on the system of teacher education in Romania, (2) analysis focusing on minority teacher education, (3) and various analyses from Europe, the Partium region, or abroad, etc. which approach Hungarian teacher education in Romania from a comparative perspective.

The majority of these analyses focus on the institutional system, on the contextual, institutional and content variables of the education. The analyzed variables are often presented from the perspective of the people involved in the education. A lesser part of the analyses focuses on the people, individuals involved in the education.

This dissertation attempts to forge these two perspectives, to mold them into a single one. Thus, the Hungarian minority teacher education in Romania is investigated in two dimensions, institutional and individual, pursuing two research aims:

(A) Institutional dimension: examine and present minority teacher education in Romania.
(B) Individual dimension: examine and present who the minority teacher students are and what their learning paths look like.

The novelty of this investigation lies in the joint discussion of these two dimensions. By means of the institutional and individual dimensions we can paint a more detailed picture of minority teacher education and of the teacher trainees themselves. For the purpose of a more nuanced, more complete picture these two dimensions have been further broken down into levels. Since the theoretical framework provides a macro-, meso-, and micro-level approach to minority education, and the factors influencing it (following Papp 2012a), we also try to present minority teacher education and the learning paths of minority teacher students on three levels, macro-, meso- and micro levels.

The institutional dimension tries to grasp the institution of minority teacher education in Romania on a macro-, meso- and micro-level. The aim was to explore (A1) the changes in the Hungarian teacher education system in Romania during 2011-2016, and since the introduction of the multi-step Bologna-type education system (1999), focusing in particular on early childhood educator- and primary school teacher education. (A2) One of the aims was to highlight the distinctive features of the minority teacher education system in Romania in relation to the majority system. (A3) We also wanted to establish whether the institutions under scrutiny – Babeş–Bolyai University Department of Pedagogy and Applied Didactics, as well as its Satu Mare Extension- can be considered regional minority universities.

The focus in the institutional dimension is on the minority teacher education system in Romania. On the macro-level we present the minority teacher education system in Romania as a sub-system of the national education system. On the meso-level we present one of the representative public teacher education institutions, the Babeş–Bolyai University Department of Pedagogy and Applied Didactics, focusing on kindergarten and primary school (prospective) teachers. The institution under scrutiny is deemed one of the representative minority teacher education institutions because it provides a unified framework for Hungarian teacher education, as well as early childhood educator – and primary school teacher education in the extensions, a separate one from the Romanian teacher education institution. A case study is carried out on the institution, and it is also presented from the students’ point of view (through questionnaires and interviews). On the micro-level we investigate a regional educational institution, the Satu Mare Extension of the Department of Pedagogy and Applied Didactics, where the language of education for early childhood educators and primary school teachers is exclusively Hungarian.
When analyzing the three levels the focus is on the meso-level, i.e. on the DPAD, however in order to interpret the DPAD we need to shed light on the macro-level (education system), as well as on the micro-level (one component of the DPAD).

The aim of analyzing the individual dimension was to present the Hungarian minority teacher students, in particular the ones from Transylvania: (B1) the minority learning paths of teacher students from Transylvania, (B2) in particular the paths from DPAD and Satu Mare. Another aim was to explore (B3) the influencing factors of minority learning path choices, and the corresponding student orientation typology, furthermore, (B4) to what extent teacher education minority learning paths turn into minority teaching paths.

The individual dimension focuses on minority teacher trainees, in particular on their learning (and teaching) paths on a macro-, meso-, and micro-level.

On the macro-level we investigate the learning paths of Hungarian minority teacher trainees: characterizing the learning paths of teacher trainees from Transylvania, compared to trainees from Transcarpathia and Vojvodina, outlining the common and distinctive features of these learning paths. Besides comparing Transylvanian trainees to the ones from Transcarpathia and Vojvodina, the learning path of minority teacher students is compared to the learning paths of Hungarian majority (mother country) teacher students, and on occasion to the learning paths of non-teacher trainees (based on the TESCEE II. 2014 database).

From the group of minority teachers – making use of the advantages and disadvantages of the participating observing researcher- we delimitated the group of Transylvanian minority teacher students, and on the meso-level we analyze the learning paths of teacher students – from the public sector-, thus portraying the characteristics of the minority teacher education system in Romania (based on the DPAD 2015 database). When presenting the common and distinctive features of the DPAD learning paths we focus on regional characteristics highlighting the common and distinctive features of the learning paths of trainees from Cluj Napoca, Târgu Secuiesc, Târgu Mureș, Satu Mare and Odorhei Secuiesc.

On the micro-level the focus is on a division of the Department of Pedagogy and Applied Didactics. We present how minority learning paths turn into teaching paths (based on the DPAD –SM 2015 and SM Alumni 2016 databases), what kind of generations of teachers are brought up by a regional teacher education institution, what learning and teaching path patterns can be distinguished, as well as, how current and former students evaluate the regional teacher education institution.
As in the case of the institutional dimension, when analyzing the three levels of the individual dimension the focus was on the meso-level, on portraying the learning paths of DPAD teacher students. The other two levels serve as benchmark for data interpretation. The learning paths of the Transylvanian trainees from the TESCEE II. 2014 database are controlled by the DPAD 2015 database, and in the case of the Satu Mare Extension we check the presence of these features in a smaller region.

By looking into the macro-, meso- and micro-levels of the two dimensions we wish to portray a picture of minority teacher education in Romania on one hand, and of the learning (and teaching) paths of Transylvanian minority teacher students (adopting a comparative approach) on the other hand.

2. Methodology
In order to gain a more detailed picture we have applied a combination of several methods. We have combined the methods of document analysis, case study, and survey (questionnaire and interview) to answer the questions posed in our research.

On the macro-level of the institutional dimension the Hungarian minority teacher education system in Romania is presented through document analysis. We analyze most particularly public and higher education laws and regulations in Romania in the 2011-2016 period, from the onset of the new education law until the completion of data recording, highlighting changes brought forth by the Education Law no. 1/2011 in public and higher education, in particular in the field of teacher education. For a more accurate interpretation of the processes we go as far back in document analysis as 1999, the date of introduction of the Bologna-type education system in teacher education.

On the meso-level applying the method of document analysis, analyzing education policy documents in the 2011-2016 period, the dissertation touches upon the opportunities provided by the Education Law no. 1/2011 for the establishment of the teacher education institution. The founding document of the DPAD, its regulations and various institutional statistics are also analyzed. We outline the context of education policy which serves as background for the established teacher education institution, its structure, management, mission statement, and planned lines of action. The dissertation depicts a more detailed picture of the Department based on data from management and instructor interviews.

On the micro-level the Satu Mare Extension of the DPAD is presented by means of a short case study. Since Hajnalka Hollóssy (2008, 2009) has conducted a detailed case
study of the institution, the present dissertation focuses solely on the aspects of the regional teacher education institution. For the case study we use parts of the learning paths belonging to the individual dimension from the SM Alumni 2016 database and the DPAD SM 2015 database. We considered those parts which relate to the institution.

On the macro-level of the individual dimension the dissertation portrays the learning paths of the Hungarian minority and majority teacher trainees through analyzing the database of the Teacher Education Students Survey in Central and Eastern Europe (TESSCEE II. 2014) research. This research took place within the framework of the SZAKTÁRNET project (TÁMOP-4.1.2.B.2-13/1-2013-0009) and under the coordination of the Center for Higher Educational Research and Development (CHERD-Hungary). 635 teacher trainees have been examined from the database: 199 from Hungarian institutions, 170 from Romanian ones, 201 from Ukrainian institutions, 63 from one institution in Serbia, with 2 trainees there was an answer deficit for the institution variable (Pusztai – Ceglédi 2015: 8–10).

In order to answer research questions students from the TESCEE II. 2014 database have been categorized into majority and minority group according to their mother tongue, the language of university education, nationality, as well as the language used to fill out the questionnaire.

The database provides ample information about students consulted. In order to present the learning-teaching paths the current dissertation focuses on the following areas: besides demographic data (gender, language use, parents’ education, parents’ profession, financial capital of the family) on the language of education, the reasons for choosing a career in teaching, and on commitment to this profession. Teacher students’ commitment to the profession has been analyzed using several indicators: whether teacher education was their first option; whether they intend to work in this profession; whether they are considering changing career within a ten year period; what they think about the prestige of this profession. Commitment to this profession was interpreted as a continuation of the learning path as a teaching path. Besides the commitment to the profession we have also investigated the commitment to minority teaching career, and planed teaching paths.

For the meso-level analysis of the minority teacher students’ learning paths we have chosen the undergraduates of Babeș–Bolyai University Department of Pedagogy and Applied Didactics. The questionnaires were completed in the spring of 2015 at BBU DPAD by third year kindergarten- and primary education pedagogy students (DPAD 2015, questionnaire: N=116, interview: N=16)
From the five extensions of the DPAD on the micro-level we depicted the learning paths of current (graduating in 2015) and graduate students (who studied between 1999-2015) at the Satu Mare Extension. We separated the Satu Mare Extension students from the DPAD 2015 database (questionnaire: N=13, interview: N=4) and compared it to the SM Alumni 2016 database, for which the data recording was carried out in the spring of 2016 (questionnaire: N=110, interview: N=7). On the micro-level we have investigated not only current teacher students, but also alumni, in order to trace the change of learning paths into teaching paths in the case of a regional institution.

The first step in the SM Alumni 2016 graduate tracking analysis was to collect institutional statistics at the Satu Mare Extension. Based on the registers, we have created a database of the students who have earned a degree in teaching. For the analysis of graduate tracking we have chosen the survey method in the form of questionnaires and interviews. The alumni who following the final examination had earned a degree in teaching at the Satu Mare Extension were asked to complete an online questionnaire. The main blocks of the questionnaire were: demographic indicators, previous learning path (from kindergarten to the teacher education institution), the reasons for choosing this profession and the institution, relationship with the institution, satisfaction with the teaching program, evaluation of the prestige of teacher education, career after graduation, further education plans, reasons for possible career abandonment and emigration. For a more detailed portrayal of life paths after graduation quantitative analyses were complemented with qualitative analyses.

3. Results
To the questions raised during the analysis of the institutional dimension we found the following answers:

(A1) Investigating the changes in the Hungarian teacher education system in Romania during 2011-2016, with special emphasis on early childhood educators - and primary school teacher education, we distinguished a dynamic, constantly changing, but due to the frequent changes a slightly entangled teacher education system. On the macro-level we tracked the constant change in the education system, the aim to conform to the European trends; however, we also encountered the stumbling, hesitating nature of the reform processes, the “one step forwards, two steps back” strategy (Miroiu – Florian 2015: 30, 31–32). The reform attitude and the conservation attitude, as well as the oscillation
between the two (Miroiu – Florian 2015: 26–27) can be traced steadily throughout the changes in the teacher education system.

The introduction of the single teacher education model (3 years BA + 2 years MA + 1 year education period) came to a standstill in only three months, and the gap between the education models was renewed. In the case of early childhood educators- and primary school teacher education the parallel teaching model was retained in the form of a 4 -year secondary education or a 3 –year university education, whereas in the case of teachers there was a return to the following education model: I. level pedagogy module for lower secondary school teaching, I. and II. level pedagogy module, and MA for high schools, post high schools or university teachers.

(A2) While identifying the distinctive features of the minority teacher education system in Romania we found that the minority teacher education system is a subsystem of the Romanian majority education system. We find the same rigid control as regards the education institutions, educational programs and curriculum, the only official difference is the language of teaching. Only in the individual dimension does minority teacher education amount to more, and can have a specific image shaped by local conditions, teachers and students.

The offer on Hungarian minority teacher education is rather limited; there are only eight universities with a Hungarian teacher education program. Early childhood educator and primary school teacher degree in Hungarian can be earned at three universities (Babeş–Bolyai University, Partium Christian University, University of Oradea) at six locations (Cluj Napoca, Târgu Secuiesc, Târgu Mureş, Satu Mare, Odorheiu Secuiesc, Oradea), as well as at the Transylvanian extension of the Károli Gáspár University in Târgu Mureş. A secondary school degree in early childhood pedagogy and primary school teaching in Hungarian can be earned in seven Transylvanian towns.

(A3) Analyzing whether the teacher education institutions under scrutiny can be deemed regional minority universities we conclude that the institutional concept of the BBU Department of Pedagogy and Applied Didactics, as well as the Satu Mare Extension gives signs of procedures compensating for the underrepresentation of minority education: extensions in the areas populated by the minority, allowing youth in the region to pursue further education in their mother tongue at their place of residence or nearby, thus strengthening the idea of regional universities. A considerable number of the teacher trainees choose the DPAD and its Satu Mare Extension because of the possibility to learn in their mother tongue, close to their place of residence. In the formation of both the
DPAD, and the Satu Mare Extension one can trace a grassroots level and change managers. Despite the unifying efforts the programs with identical curriculum and content have an individual character in the DPAD and its extensions; the Satu Mare extension not being an exception to this. The individual character is primarily influenced by individual factors (students, teachers), as well as socio-regional factors.

To the questions raised during the analysis of the individual dimension we found the following answers:

(B1) Searching for the distinctive features of the learning paths of Transylvanian Hungarian teacher students as compared to other Hungarian minority and majority teacher students we found that Transylvanian Hungarian teacher trainees exhibit an individual character as regards minority group, and form and location of education (extension). Ethnicity influences the particularities of the learning paths, majority and minority teacher students display different characteristics. At the same time there is a difference between the learning paths of Hungarian minority teacher students (Transylvanian, Vojvodina, Transcarpathian characteristics), furthermore Transylvanian students at different extensions display regional characteristics.

According to the macro-, meso- and micro-level analysis Transylvanian teacher trainees are mostly women, the first person in the family to earn a degree (especially among students from Târgu Secuiesc), thus the influence of the family model is less pronounced in the learning paths, the degree of the teacher profession as a tradition in the family is low. The Transylvanian students involved in the current study are first-generation intellectuals and first-generation teachers. The Târgu Secuiesc and Satu Mare models are partially different from the other groups in choosing the profession, the language of education, as well as in the intention of remaining in the profession. These differences are influenced not only by the location of education, but also by other background variables. Besides ethnicity the learning paths are influenced by the socio-political context, especially the structure of the school. A part of the students prefers to study in their mother tongue close to their place of residence, this is the reason they choose teacher education or the respective institution. To a smaller degree family background is also an influencing factor (e.g. choosing the language of education at kindergarten), however, the attitude of following the family is losing ground.

(B2) Searching for the specific features of the DPAD and Satu Mare learning paths we distinguished a number of specific features. Our investigations on Hungarian minority teacher students shed light on the fact that most minority teacher trainees choose the
entirely minority path on macro-, meso- and micro-level, as well. On the level of kindergarten education the official language of the country is more often present as language of education.

According to the *macro-level* findings among Transylvanian teacher trainees – as opposed to other minority students- the number of previous studies in the official language is slightly higher, and the change from majority to minority learning path takes contour. Among their peers they have the lowest evaluation of the prestige of the profession. Commitment to the profession is strengthened by the fact that teacher education was their first option.

The *meso-level* analyses portrayed only entirely minority learning paths from kindergarten to MA studies. A stratum of the students will be highly qualified for the teaching profession since their current teacher education learning paths are the continuation of secondary school teacher education learning paths. A large number of students would continue their studies at the MA level, however, a part of the planed further education plans will come to a halt due to the scarcity of education programs since at the regional extensions there is no, or little possibility to enroll in an MA program.

On the *micro-level* analysis a number of changing learning paths are contoured. The undergraduates and alumni of the Satu Mare Extension did not have the opportunity to learn in their mother tongue in the kindergarten. They could choose between Romanian and German. This fact accentuates partly the influence of the socio-regional characteristics, and partly the influence of the family in decision-making (Bukodi 1998) since at the age of kindergarten the language of learning is decided by the family,

Those earning a degree at the Satu Mare Extension are also highly qualified for the teaching profession since at the time of their studies almost half of the alumni already had a degree in teaching. This strengthens the pragmatic orientation trend, the “paper” as a motivating factor is strongly present. On the micro-level there is a strong presence of the demand for life-long learning, among the Satu Mare alumni there is often a further ramification in the learning paths, either into a BA program or an MA. The number of those who consider their learning paths completed is significantly lower as compared to the number among current undergraduates.

(B3) Creating an orientation typology of teacher trainees in the light of factors influencing the choice for minority learning paths, we have noticed, that the macro-, meso- and micro-level analysis gives similar results as regards student typology.
On the macro-level we have established three groups among minority teacher trainees: committed to the teaching profession, following models, and eternal students.

On the meso-level besides the commitment to the profession a stratum of students (Satu Mare, Târgu Mureș) find it particularly relevant to study in their mother tongue and close to their place of residence, i.e. the attraction of the regional minority university. Apart from regionalism following a safe model and the wise teacher attitude is also present among students, as well as, the romantic student attitude of fulfilling their childhood dream. Students who have a job (teaching) are more pragmatic and consider that the essence of minority teaching is efficiency in mother tongue.

Students from Satu Mare and a stratum of the alumni are characterized by a regional minority search for hobby and pragmatics, as well as, romanticism, i.e. fulfilling their childhood dream of becoming a teacher. Among the Satu Mare alumni we have identified in a small proportion even committed teachers, eternal students and model followers. Investigations point out that commitment is a driving force among (prospective) teachers, thus the symbolic identity-forming nature is strongly present, as well as, commitment to minority teaching and regionalism.

(B4) Investigating how and to what extent teacher trainees’ minority learning paths turn into minority teaching paths we found that in the majority of cases their learning paths turn into teaching paths, and a significant number of these are minority teaching paths. This in part means commitment to minority teaching and belonging to the minority (symbolic identity-forming function), however, the choice is partly influenced by the language barrier.

According to the results of the macro-level analysis almost two thirds of the Transylvanian teacher trainees imagine their future career as teachers. The intention of profession abandonment is low among Transylvanian teacher trainees, similarly to students from Vojvodina, and significantly lower than in the case of students from Transcarpathia. The majority of Transylvanian students imagine their future in a public school. Compared to their minority peers they are more willing to accept jobs in national minority schools. Similarly to their minority or majority peers Transylvanian students are reluctant to teach in Roma schools, schools for children with special needs or disabilities.

On the meso-level there is also a strong presence of minority teacher learning paths turning into minority teaching paths. Transylvanian teacher trainees prefer teaching in their mother tongue in public institutions and national minority institutions. On the meso-
level the interviews provide a vague outline of the fact that undertaking a minority teaching path besides the strong mother tongue and minority identity can also be a compensation for the language barrier, since it is those students who would teach only in their mother tongue who are less proficient in the official language. Students who are proficient in the official language would also teach, for pragmatic reasons or as a challenge, in the language of the majority.

On the micro-level analysis the majority of the alumni and last-year students of the Satu Mare extension have chosen the teaching path. They work primarily in minority education in Romania, or intend to work after graduation. In the alumni sample under scrutiny the number of students working abroad, and that of profession abandonment is low.

Answering our research questions it has become evident that learning paths provided a suitable framework for interpretation, teacher education has been identified as a specific minority learning path. A large part of the teacher trainees have followed an entirely minority path, which culminated in teacher education; however based on the life-long learning principle these learning paths continue. We could also identify learning paths that have turned from majority to minority learning paths. For students involved in the research kindergarten education was done either in the official language of the country or another minority language, reinforcing Boudon’s (1974) decision theory, according to which the family has a decisive role in the decision-making situations at the ramification of learning paths. In our framework of interpretation the identified minority learning paths have turned into teaching paths.

The idea of regional minority university has also been confirmed, the institutions investigated display the main characteristics of regional universities through the procedures compensating for the underrepresentation of minority education; as well as, through the fact that a significant number of the teacher trainees wish to study in their mother tongue, close to their place of residence at a higher prestige institution.
List of publications related to the dissertation

Hungarian books (1)

Hungarian book chapters (16)


   In: Kompetencia és tudástranszf er az oktatásban : A VI. Tudományos Ülésszak Előadásai.
   ISBN: 24571512

   In: Szakmai szocializáció a felsőoktatásban : A pedagógusképzés kihívásai a Kárpát-
   medencében. Szerk.: Pusztai Gabriella, Ceglédi Timea, Partium ; Budapest : Press Uj
   Mandátum, Nagyvárad, 29-40, 2015, (Felsőoktatás & Társadalom ; 2.) ISBN:
   9789631233988

   In: Határon innen és határon túl : A magyar nyelvű óvodapedagógus- és tanítóképzés
   időszerű kérdései. Szerk.: Stark Gabriella, Baranyai Tünde, Szabó-Thalmeiner Noémi, Végh

    In: Oktatáskutatás határon innen és túl. Szerk.: Juhász Erika, Kozma Tamás, Belvedere
    Meridionale, Szeged, 304-327, 2014, (HERA Évkönyvek, ISSN 2064-6755 ; 1.) ISBN:
    9786155372179

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    In: Határtalan oktatáskutatás : Tanulmányok a 75 éves Kozma Tamás tiszteletére. Szerk.: 
    oktatás, ISSN 2064-6046 ; 9.) ISBN: 9789630889957

    MA/MSc oklevélő.
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    In: Sztereolípiák, választások, túléírási stratégiák kisebbségi léthelyzetben. Szerk.: Szoták
    Szilvia, Balassi Intézet, Márton Áron Szakkollégium, Budapest, 335-367, 2013,
    (Határhelyzetek, ISSN 2064-3918 ; 5.) ISBN: 9789638742346
15. **Stark, G. M.**: A romániai magyar pedagógusképzés a felsőoktatás változásainak tükrében.

16. **Stark, G. M.**: Magyar nyelvű óvodapedagógus- és tanítóképzés a tantervek tükrében.

17. **Stark, G. M.**: Hetékony-e a bolognai rendszer alelpézése a tanító- és óvóképzés terén?
   ISBN: 9789731764740

**Foreign language international book chapters (1)**

18. **Stark, G. M.**: Hungarian Teacher Education in Romania in the Light of Minority Learning Paths.

**Hungarian scientific articles in Hungarian journals (7)**

19. **Stark, G. M.**: Romantikus és pragmatikus kisebbségi pedagógusjelöltek. PADI-s tanulási útvonalak hallgatói interjúk tükrében.


21. **Stark, G. M.**: Az önálló magyar pedagógusképző intézet "esete" a Babeş-Bolyai Tudományegyetemen.

22. **Stark, G. M.**: Pedagógusképzés és SNI. Felkészültek-e a pedagógusjelöltek a speciális nevelési igényű gyermekekkel való munkára?

23. **Stark, G. M.**: Kisebbségi pedagógusképzés Romániában.
    *Educatio*. 1, 133-139, 2012. ISSN: 1216-3384.

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DOI: http://dx.doi.org/10.5911/HERJ2011.01.05

Hungarian scientific articles in international journals (4)
PedActa. 6 (2), 89-94, 2016. ISSN: 2248-3527.


28. Stark, G. M.: Pedagógusképzés és/mint kisebbségi tanulási útvonal?


Hungarian conference proceedings (2)
In: Kompetencia- és tudástranszfer az oktatásban : A VII.tudományos ülésszak előadásai. 
Szerk.: Barabási Tünde, Kolozsvári Egyetemi Kiadó, Kolozsvár, 97-110, 2016, (Universitae Napocensis, ISSN 2247-5907)


List of other publications

Hungarian books (7)


Hungarian book chapters (5)


Foreign language Hungarian book chapters (1)

Hungarian scientific articles in international journals (3)


Foreign language scientific articles in international journals (1)


Other journal articles (1)


Hungarian conference proceedings (1)


The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of Web of Science, Scopus and Journal Citation Report (Impact Factor) databases.

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