

**Elżbieta Magiera\***

## **Doctor Elżbieta Jaroni (1954–2014) and Her Scientific Contribution to the Field of Early School Education<sup>1</sup>**

### **Doktor Elżbieta Jaroni (1954–2014) i jej dorobek naukowy w zakresie pedagogiki wczesnoszkolnej**

**Abstract:** The article concerns Elżbieta Jaroni, PhD (1954–2014), who was associated with the University of Szczecin and one of its prior forms – the Higher School of Pedagogy in Szczecin – during her studies and professional career. It describes her biography, professional growth and positions held at the university. It contains analyses of her scientific contribution to the field of early school education. Jaroni wrote scientific texts on didactic issues, concerning the organization of early school education, integrated education (including grades I–III) in the process of educational changes, as well as its goals and programme assumptions. She also devoted her attention to the importance of mathematics in the education of primary school children. She dealt with the issue of teachers of early school education. In her scientific studies, she drew attention to individual differences between children and the need to consider these in educational practice. She particularly emphasized the importance of preparing students for independent learning.

**Keywords:** Elżbieta Jaroni, early school education, integrated education, independent learning.

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## Biography

**E**lżbieta Anna Jaroni was born on 22 June 1954 in Stargard Szczeciński. She was the daughter of Eugeniusz Marian Jaroni and Wiesława Marianna Mrozek. She completed her higher education at the Faculty of Pedagogy of the Higher Pedagogical School in Szczecin in 1977, obtaining a master's degree in school pedagogy. In the same year, she started working at her alma mater. From 1985, she worked at the University of Szczecin, which was established based on the Higher School of Pedagogy. She was associated with the university until the end of her life.<sup>2</sup> She carried out professional tasks in the field of early school education, initially as a technician (1977–1978), an assistant (1978–1987), then as a lecturer (1987–1990), an assistant professor (1990–2010) and a senior lecturer (2010–2014). In the 1980s, she participated in a doctoral seminar at the University of Szczecin conducted by university professor Janina Parafiniuk-Soińska, PhD.<sup>3</sup> She obtained her doctoral degree on 17 November 1989 at the Faculty of Humanities of the Higher Pedagogical School of the National Education Commission in Kraków<sup>4</sup> based on her dissertation entitled *Przygotowanie uczniów do samodzielnego uczenia się a efekty dydaktyczne* [Preparing Students for Independent Learning and the Effects of Teaching] prepared under the supervision of the abovementioned Parafiniuk-Soińska.<sup>5</sup>

For many years (1977–1994), she was associated with the Department of General Didactics, headed by Parafiniuk-Soińska, first at the Higher School of Pedagogy in Szczecin and from 1985, at the Institute of Pedagogy and Psychology of the University of Szczecin.<sup>6</sup> On 1 October 1994, the Department of Early School

2 J. Król, E. Magiera, *Instytut Pedagogiki Uniwersytetu Szczecińskiego (1985–2015)*, Szczecin 2015, pp. 199–200.

3 More about Janina Parafiniuk-Soińska (1922–2012) in: J. Król, *Janina Parafiniuk-Soińska: szczecińska pedagog i uczona*, „Polish Biographical Studies”, 3 (2015) pp. 143–158, DOI: 10.15804/pbs.2015.07.

4 Archives of the University of Szczecin (AUS), sygn. 259/140, Dział Spraw Osobowych. Jaroni Elżbieta, p. 240.

5 *Ibidem*, pp. 52, 171.

6 The name Institute of Pedagogy and Psychology was used from 1985 to 1994 and from 2007 to 2008. The name the Institute of Pedagogy of the University of Szczecin has been in force from 2008 until today. J. Król, E. Magiera, *Instytut Pedagogiki Uniwersytetu Szczecińskiego (1985–2015)*, pp. 52.

Pedagogy was established in this institute, with Jaroni appointed acting head.<sup>7</sup> In 1997, as a result of changes in the organizational structure of the Faculty of Humanities of the University of Szczecin, the Department of Early School Pedagogy was closed.<sup>8</sup> Instead, the dean, Edward Włodarczyk, PhD established the Early School Pedagogy Team (1997–2000)<sup>9</sup> and then the Early School Pedagogy Laboratory (2000–2008),<sup>10</sup> the management of which was again entrusted to Jaroni.<sup>11</sup> From 1996 to 2005, for three terms of office, she served as deputy head of the Institute of Pedagogy, where she was responsible for the teaching process and the organizational and educational activities of this unit.<sup>12</sup>

Jaroni was also involved with teacher training at the University of Szczecin. On 23 May 1992, the rector of the University of Szczecin, Professor Tadeusz Wierzbicki, PhD, appointed her as the head of the two-semester Pedagogical Study, which was part of the Education and Rehabilitation Analysis Centre at the Faculty of Humanities. She held this position in the academic years 1992–1993 and 1993–1994.<sup>13</sup> In the following years, she was the organizer and head of the Postgraduate Studies in Early School Pedagogy and Integrated Education (1997–2001). In addition to her professional duties at the University of Szczecin, she also worked at the Higher Vocational School in Gorzów Wielkopolski and was a lecturer and scientific and didactic supervisor in the field of early school and kindergarten pedagogy at the Teacher Training College in Koszalin.

Among her scientific and didactical interests was early school pedagogy, particularly the methodology of teaching mathematics, which is why she conducted lectures and exercises on the methodology of teaching early school mathematics, early school education methodology, the development of chil-

7 AUS, sygn. 259/140, Dział Spraw Osobowych. Jaroni Elżbieta, p. 71.

8 Ibidem, pp. 83, 86.

9 AUS, sygn. 35/15, Protokoły z posiedzeń Rady Wydziału Humanistycznego 1997/1998, p. 2.

10 In 2008, organizational changes were made to the Institute of Pedagogy of the University of Szczecin. In place of research institutes, departments were established. In the same year, the Laboratory of Early School Pedagogy was transformed into the Department of Early Education, which is still headed by Dr Hab. Urszula Chęcińska, professor at the University of Szczecin.

11 AUS, sygn. 259/140, Dział Spraw Osobowych. Jaroni Elżbieta, p. 113.

12 Ibidem, pp. 77, 107.

13 AUS, sygn. 259/140, Dział Spraw Osobowych. Jaroni Elżbieta, pp. 64–65.

dren's mathematical competences and also general didactics and other subjects. She supervised 430 students for their master's degrees and over 70 for bachelor's degrees. She participated in the work of study programme teams, conducted science camps and supervised student internships and student groups. She took part in scientific conferences organized by the Higher School of Pedagogy in Rzeszów and the University of Rzeszów, the Higher School of Pedagogy in Zielona Góra, the Nicolaus Copernicus University in Toruń, the Kazimierz Wielki University in Bydgoszcz, the Jan Długosz Academy in Częstochowa and her alma mater. She regularly participated in didactic seminars at the seaside in Międzyzdroje, scientific seminars in the Tatras, pedagogical meetings and German-Polish symposia organized by the University of Szczecin.

She always performed her professional duties conscientiously, which is why she received awards: of the rector of the Higher School of Pedagogy in Szczecin for her teaching and educational achievements (1981 and 1982); of the rector of the University of Szczecin for her teaching achievements (1986, 1992); of the rector of the University of Szczecin for her scientific achievements (1992); and the second-degree team award of the rector of the University of Szczecin for her teaching achievements (1995).<sup>14</sup>

In the 1970s, she was a member of the academic choir of the Higher School of Pedagogy in Szczecin. From 1985, she was a member of the Polish Pedagogical Society. She belonged to the Polish Teachers' Union at the University of Szczecin, where she served as a member of the arbitration committee.

She died suddenly, just after her sixtieth birthday. On the morning of 10 July 2014, she did not show up for master's exams, did not answer the phone and it turned out that she had died suddenly.

### **Functional integration as Jaroni's subject of interest<sup>15</sup>**

Scientifically, Jaroni was interested in the programme and organizational assumptions of early school education in Poland in the second half of the 20<sup>th</sup>

14 Ibidem, pp. 62, 74.

15 The composition of the subsequent parts of the text is based on the structure of Jaroni's book *Dylematy integrowanej edukacji wczesnoszkolnej*, Kraków 2008.

century. She wrote about the evolution of these from 1978 to 1999. She started her analyses from the 1970s, when the early school teaching cycle was reduced from four to three grades of primary school and a new idea of education was adopted, which consisted of showing children an integrated image of the world.<sup>16</sup> The idea was to introduce functional integration in line with ‘the basic assumptions of an integral system of upbringing and teaching, consisting of the joint implementation of the goals of upbringing and teaching through the organization of children’s multilateral activities’.<sup>17</sup> Jaroni showed the specific connection and evolutionary development of early school education reforms from the 1970s and 1990s in terms of programme and organizational solutions. This included: giving lessons by one teacher, flexible regulation of students’ learning time, multi-faceted understanding of integrated education and other elements. She compared framework teaching plans, pointed out barriers that hinder or prevent the implementation of the adopted assumptions, and emphasized, following Ryszard Więckowski, that: ‘Every educational concept, more or less clearly formulated, must have, using conventional nomenclature, “attributes of historicity”’.<sup>18</sup>

Jaroni wrote about the Act of 8 January 1999 – Provisions introducing the reform of the school system.<sup>19</sup> She claimed that its sources can be found in the 1970s, which was a period of ‘planning and preparing for the implementation of ten-year compulsory general education school’,<sup>20</sup> aimed at popularizing secondary education. The author compared the assumptions for

16 E. Jaroni, *Ewolucja założeń programowo-organizacyjnych edukacji wczesnoszkolnej w Polsce w latach 1978–1999*, in: *Przemiany dydaktyki na progu XXI wieku*, eds. K. Denek, F. Bereźnicki, J. Świrko-Pilipczuk, Szczecin 2000, p. 130.

17 *Program dziesięcioletniej szkoły średniej*. Instytut Programów Szkolnych Ministerstwa Oświaty i Wychowania, Warszawa 1997, p. 26.

18 R. Więckowski, *Podstawowe warunki dalszego rozwoju systemu edukacji wczesnoszkolnej*, in: *Współczesne przemiany edukacji wczesnoszkolnej*, ed. M. Jakowicka, Zielona Góra 1995, p. 27.

19 Journals of Laws of 1999, No. 12, item 96, as amended.

20 E. Jaroni, *Ewolucja założeń programowo-organizacyjnych edukacji wczesnoszkolnej w Polsce w latach 1977–1999*, in: *Reformy oświaty w Niemczech i w Polsce. Piąte niemiecko-polskie sympozjum Uniwersytetu Technicznego w Berlinie i Uniwersytetu Szczecińskiego*, eds. H. Marburger, N. H. Weber, Berlin 2000, p. 46.

grades I–III contained in the educational programme, the teaching plan, as well as the programme, methodological and organizational concept published in 1979 for the *Core Curriculum of Early School Education* announced in 1997 and the *Education System Reform Project* (1998). She noticed some similarities regarding the need for, understanding and organization of integrated education in documents from the late 1970s and those published two decades later. She pointed to the evolutionary development of changes in early school education. Her considerations led to the conclusion that ‘integrated education, as understood today, requires a teacher to thoughtfully design, prepare and implement an educational process that combines content from various fields and all types of children’s activity’.<sup>21</sup>

Considering the goals (general and specific) and tasks of integrated early school education, the author referred to changes resulting from the systemic transformation, which gave rise to new education programmes developed by the central educational authorities and issued in 1991,<sup>22</sup> 1993<sup>23</sup> and 1998.<sup>24</sup> She presented fragments of educational programmes for children in grades I–III published by various publishing houses and approved by the Ministry of National Education. She came to the conclusion that their multiplicity and diversity, as well as the use of different linguistic expressions, made the analysis difficult. The only thing she could compare was the number of ‘formulated general and specific objectives and their compliance with the objectives contained in the core curriculum’.<sup>25</sup> She emphasized that the key goals worthy of attention included ‘preparing an individual for self-fulfilment, getting to know the world and developing the ability to participate in culture through humanistic, civic and ecological education’.<sup>26</sup>

21 Ibidem, p. 49.

22 *Zarys koncepcji generalnej zmiany programu kształcenia w polskich szkołach*, Warszawa 1991; *Koncepcja kształcenia ogólnego w polskich szkołach*, Warszawa 1991.

23 *O dobrą i nowoczesną szkołę – kontynuacja przemian edukacyjnych*, Warszawa 1993.

24 *Regulation of the Minister of National Education of February 15, 1999 on the core curriculum for general education*, Journals of Laws of 1999, No. 14, item 124.

25 E. Jaroni, *Cele zintegrowanej edukacji*, in: *Dydaktyka ogólna. Wyzwania a rzeczywistość*, eds. K. Denek, F. Bereźnicki, J. Świrko-Pilipczuk, Szczecin 2001, p. 175.

26 Ibidem, p. 175.

### **Research on teachers' attitudes towards structural and programme reform**

In January 1998, the Ministry of National Education submitted the general assumptions and directions of education reform for consultation. The conclusions from the consultation contributed to the development of a detailed reform project entitled *The reform of the education system: Project*.<sup>27</sup> Using the diagnostic survey method, Jaroni examined the attitudes of teachers of the first stage of education towards the structural and programme reform of the education system.<sup>28</sup> The survey showed that the emotional attitude of early school education teachers towards the education reform was positive, but most respondents had little knowledge about the planned changes because not even than 30% knew about the release of the above reform project and the intended transformations of the education system. Similar percentages concerned participation in professional development or self-education; respondents had an expectant attitude to what time would bring.<sup>29</sup>

Jaroni also was also interested in how much teachers of elementary education knew about the learning process and its determinants.<sup>30</sup> She analysed research conducted in May 2004, which showed that 75% of respondents had a narrow understanding of the concept of 'learning' and only 32% were able to justify why they had chosen a specific definition. When it comes to types of learning, most people (69%) chose 'learning by doing', although not everyone could explain what it was about. The fewest respondents chose the terms 'learning through understanding' and 'learning by imitating others'. Among the various forms of learning, most respondents (69%) chose 'natural learning',

27 J. Kraś, *Reforma systemu oświaty w III RP: założenia i realizacja*, „Resovia Sacra. Studia Teologiczno-Filozoficzne Diecezji Rzeszowskiej”, 14–15 (2007–2008) p. 304.

28 E. Jaroni, *Postawy nauczycieli klas młodszych wobec reformy systemu edukacji*, in: *Pedagogika wobec przemian i reform oświatowych*, eds. G. Miłkowska-Olejniczak, K. Uździcki, Zielona Góra 2000, pp. 519–522.

29 Ibidem, p. 522.

30 Eadem, *Wiedza nauczycieli edukacji elementarnej na temat procesu uczenia się i jego uwarunkowań*, in: *Procesy uczenia się i ich uwarunkowania*, eds. F. Bereźnicki, K. Denek, J. Świrko-Pilipczuk, Szczecin 2005, pp. 104–111.

although not all people were able to explain what it meant. When it comes to learning difficulties, the most popular were dyslexia (96%) and dysgraphia (85%), while dyscalculia and attention deficit related to excessive motor excitability were chosen by only a dozen or so percent. The author concluded her analysis of the research results with the assumption that 'the current teacher education system does not sufficiently take into account the demand that a competent elementary teacher creates the most favourable learning conditions for all students in accordance with their individual capabilities.'<sup>31</sup>

Jaroni's research interests concerned the attitudes of teachers of lower grades towards tests measuring school achievements.<sup>32</sup> She assumed that the reform of the education system introduced in 1999 required teachers to have high specialist, psychological and didactic competences. She also spoke about the ability to control and evaluate the school achievements of younger students, especially since the new educational reform emphasized external assessment and examination (using school tests), organized by the central and regional examination boards. She emphasized that after the period of systemic transformation and the introduction of the education reform, there was a change in the tasks assigned to teachers. It was no longer about 'instilling' new knowledge, 'controlling' a student's development and 'implementing' specific attitudes. After adopting new axiological and teleological foundations, according to which a person is the highest value, the teacher's task was to create conditions for schoolchildren's self-fulfilment, take care of their proper development, support them and create a friendly, safe and healthy environment that ensures the fulfilment of their individual needs.

In this context, Jaroni wrote about intra-school evaluation of students in the first stage of education, moving away from adaptive education, in which assessment had a didactic and selective function, towards critical and creative education, in which assessment helped to motivate and support students.<sup>33</sup> The analysis of the empirical material obtained in research conducted in 1997,

31 Ibidem, p. 111.

32 Eadem, *Postawy nauczycieli klas początkowych wobec testów osiągnięć szkolnych – rzeczywistość i potrzeba zmian*, in: *Tendencje w dydaktyce współczesnej*, eds. K. Denek, F. Bereźnicki, Toruń 2021, pp. 148–154.

33 Ibidem, p. 150.



using the diagnostic survey method, showed that the respondents' knowledge about school tests was low. More than 60% had a negative attitude towards this method of control and evaluation and chose other options: observation, verbal control and written work. Only half of the teachers checked the educational achievements of students in grades I–III using tests. Jaroni explained this by the fact that while pedagogical literature increasingly raised the issue of tests and their use in evaluating and controlling school achievements, the knowledge of this method and its practical application by early school teachers was unsatisfactory. This was a significant problem for her, particularly in the context of the sixth-grade test (the final exam in primary school in Poland).<sup>34</sup>

The changes in education undertaken in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries and the development of information technology led to discussions among teachers, parents, educators and scientists about the use of computers in the school education process. Jaroni spoke about the use of computers in early school education.<sup>35</sup> At the end of the 1990s, she wrote that using these teaching aids carried not only many benefits but also certain threats. She emphasized that attention should be paid to the purposefulness of using this teaching aid, as well as the manner and scope of its use by students. In her opinion, the issue of using computers in the younger grades of primary schools 'should be of interest not only to pedagogues but also to psychologists, physiologists and even doctors if... we do not want to harm our children'.<sup>36</sup>

### Research on student evaluation

After the systemic transformation initiated in 1989 – as Bolesław Niemierko wrote – student evaluation was the most neglected field of didactics that needed to be reformed.<sup>37</sup> In the early 1990s, Jaroni became interested in student evaluation, particularly students' emotional attitudes towards school evaluation. She

34 Eadem, *Postawy nauczycieli klas początkowych wobec testów osiągnięć szkolnych*, p. 154.

35 Eadem, *Wykorzystanie komputera edukacji wczesnoszkolnej – możliwości i zagrożenia*, in: *Pedagogika wobec współczesnych wyzwań. Materiały. Konferencje*, eds. F. Bereźnicki, A. Bielawiec, Szczecin 1999, pp.79–86.

36 Ibidem, p. 85.

37 B. Niemierko, *Między oceną szkolną a dydaktyką*, Warszawa 1991.

decided to empirically address this problem and conducted research among 105 primary school students. While 43.8% were in favour of systematic evaluation, 56.2% were against it. While children finishing early school education most often declared a willingness to be evaluated frequently, those in the older grades of primary school did not tend to express this attitude. The difference between these groups was 32.8%. Jaroni wrote that student evaluation is a value judgement and can be expressed in various ways. While examining students' opinions regarding school grades, she noticed inconsistencies in their statements. Namely, she emphasized that, on the one hand, students most often equated school grading with grades that they did not accept. On the other, the results of a diagnostic survey conducted in 1992 showed that the majority of students (57.1%) chose grading as the best form of evaluation, with 32.4% of students preferring verbal evaluation, 6.7% indicating evaluation expressed in the form of various gestures and 3.8% preferring small gifts. Concluding her reflections, Jaroni stated that during the period of educational changes and attempts to introduce various innovations, knowledge about students' emotional attitudes to school evaluation might prove important.<sup>38</sup>

Jaroni also focused on the issue of independent learning, which was the subject of her doctoral thesis and research based on a pedagogical experiment, as well as her postdoctoral book and publications that help discover individual differences between children. She believed that the development of independent learning in the younger grades is facilitated by rich structures of activities and teaching activities appropriately undertaken by a teacher that allow students to become aware of goals, to plan and implement tasks, as well as control and assess themselves.<sup>39</sup> She analysed the achievements of pedagogical thought regarding independent learning, referring to the views of Jan Amos Comenius, Jean-Jacques Rousseau, Jan Henryk Pestalozzi, John Dewey, Bogdan Nawroczyński, Kazimierz Sośnicki, Bogusław Suchodolski, Wincenty Okoń, Józef Pótturzycki and others. She cited contemporary research on the process of independent learning, which

38 E. Jaroni, *Stosunek emocjonalny uczniów do oceny szkolnej*, „Zeszyty Naukowe. Uniwersytet Szczeciński”, No. 179: „Prace Instytutu Pedagogiki i Psychologii”, 2 (1995) pp. 77–84.

39 Eadem, *Efektywność dydaktyczna przygotowania uczniów do samodzielnego uczenia się*, Szczecin 1992, pp. 201–206.

concluded that little of this type of research had been conducted at the stage of early education.<sup>40</sup> She paid particular attention to the importance of the activity and independence of younger students in the teaching process and its results and expressed the need to study the manifestations.

Referring to educational practice, Jaroni believed that ‘it is indispensable to properly conceptualize individual differences between them [students] and to analyse the causes of these differences’.<sup>41</sup> She indicated the need to study quantitative and qualitative changes in a child’s development, affecting their ability to gather experience, skills, abilities and knowledge and to cope with difficulties. She referred to changes in ontogenetic development from the perspectives of Elizabeth B. Hurlock,<sup>42</sup> Maria Przetacznikowa and Grażyna Makieło-Jarża,<sup>43</sup> Ziemowit Włodarski and Anna Matczak,<sup>44</sup> among others. She emphasized the importance of cognitive development, in which sensory impressions, including observations, allow for direct and indirect learning about reality to play a fundamental role.<sup>45</sup> She wrote that ‘For the perception to be active and for a child to pay attention, this process must be skilfully organized’,<sup>46</sup> and their memory, imagination and thinking must be developed. She concluded that ‘knowing and taking into account selected mental properties of a child is a basic condition for their school success.’<sup>47</sup> Knowledge about the development of children’s cognitive processes provides each teacher with appropriate tips regarding the selection of teaching methods and enables

40 Eadem, *Zagadnienie samodzielnego uczenia się w literaturze pedagogicznej*, „Toruńskie Studia Dydaktyczne”, 11 (2002) No. 18, pp. 177–184.

41 Eadem, *Poznawanie i uwzględnianie właściwości psychicznych dziecka jako warunek jego powodzenia szkolnego*, in: *Edukacja jutra. VIII Tatrzańskie Seminarium Naukowe*, eds. W. Kojs, E. Piotrowski, T. M. Zimny, Częstochowa 2002, p. 243.

42 E. B. Hurlock, *Rozwój dziecka*, transl. B. Hornowski et al., Warszawa 1960, p. 41.

43 M. Przetacznikowa, G. Makieło-Jarża, *Psychologia rozwojowa*, Warszawa 1977, p. 11.

44 Z. Włodarski, A. Matczak, *Wprowadzenie do psychologii*, Warszawa 1992.

45 E. Jaroni, *Rozwój poznawczy i osiągnięcia szkolne dzieci z klas początkowych*, in: *Proces kształcenia i jego uwarunkowania*, eds. K. Denek, F. Bereźnicki, J. Świrko-Pilipczuk, Szczecin 2002, p. 189–193.

46 Ibidem, p. 191.

47 Eadem, *Poznawanie i uwzględnianie właściwości psychicznych dziecka jako warunek jego powodzenia szkolnego*, p. 247.

students to achieve school success. Twenty years ago, she claimed that despite the development of psychological knowledge, 'the child is still for the school, not the school for the child'.<sup>48</sup>

Analysing the ministerial documents introducing the structural and programme reform in 1999, Jaroni continued to explore the abovementioned issues, focusing on the development of students' cognitive skills as the main goal of early school education.<sup>49</sup> She pointed out that only one sentence in the core curriculum concerned cognitive development in grades I–III, which read as follows: 'Recognizing the level of proficiency that determines students' mastery of basic reading, writing and arithmetic skills; conducting improvement exercises accordingly'.<sup>50</sup> Jaroni wrote that there was no stronger emphasis on the need to develop students' cognitive skills, important for reading, writing and arithmetic. Citing Louis L. Thurstone, she drew attention to the concept of intelligence he developed, called the theory of primary mental abilities. She argued that it has empirical justification in the context of the school education process. It contains primary mental abilities, which Thurstone classified as verbal comprehension, word fluency, number facility, spatial visualization, associative memory, perceptual speed and reasoning. At the beginning of the 21<sup>st</sup> century, she drew her own conclusions regarding the examined issues, which included: precise formulation and inclusion of goals emphasizing the need for education supporting child development in education programmes; the need to update teachers' knowledge regarding mental phenomena, including students' cognitive processes; developing appropriate methods, techniques and tools enabling teachers to examine the cognitive processes of children in grades I–III; developing appropriate tasks and materials to not only enable the recognition of a child's cognitive abilities but also stimulate them.<sup>51</sup>

48 Eadem, *Rozwój poznawczy i osiągnięcia szkolne dzieci z klas początkowych*, p. 192.

49 Eadem, *Rozwijanie umiejętności poznawczych jako główny cel współczesnej edukacji wczesnoszkolnej*, in: *Proces kształcenia i jego uwarunkowania*, red. K. Denek, F. Bereźnicki, J. Świrko-Pilipczuk, Szczecin 2003, pp. 105–110.

50 The Regulation of the Minister of National Education of 15 February 1999 on the core curriculum for general education, *Journal of Laws* 1999, No. 14, item 124.

51 E. Jaroni, *Rozwijanie umiejętności poznawczych jako główny cel współczesnej edukacji wczesnoszkolnej*, p. 109.

### **The concept of mathematics in integrated education**

Jaroni conducted mathematics education classes for many years with students preparing to become early school teachers. Therefore, her scientific interests included mathematics, its place and role in primary education, and later in integrated early school education. In the mid-1980s, she was already scientifically interested in developing mathematical skills in early school education.<sup>52</sup> Assuming that teaching mathematics in the younger grades is the basis for teaching this subject in the older grades, she argued that work on developing mathematical skills should begin with the shaping of basic concepts in grades I–III. She emphasized that this process should be accompanied by the logic of this subject and knowledge of the students' psyche, manifested in the selection of appropriate teaching methods and organizational forms adapted to the age and psychophysical capabilities of the students. She wrote that a student's abilities are constantly changing and their development takes place in different ways, therefore in the education process, it would be good to include properly formulated tasks and commands that will activate and develop basic mental operations.<sup>53</sup>

In 1997, she conducted research, which tried to determine the level of maturity of seven-year-old children when learning mathematics and the determinants of this maturity, looking at place of residence and when they attended kindergarten (or the kindergarten section at a primary school).<sup>54</sup> She achieved the best results with high indicators of maturity for learning mathematics being emotional maturity and maturity in integrating perceptual-motor activities and using representations. First grade pupils achieved lower results with indicators such as operational reasoning and calculations. The place of residence did not have as much impact on the results as when children were provided with preschool education. Lower results were achieved

52 Eadem, *Rozwijanie zdolności matematycznych w nauczaniu początkowym*, „Zeszyty Naukowe Uniwersytetu Szczecińskiego”, No. 2: „Prace Instytutu Pedagogiki i Psychologii”, 14 (1985) pp. 133–143.

53 Ibidem, p. 141.

54 Eadem, *Dojrzałość dzieci do uczenia się matematyki i jej uwarunkowania*, „Zeszyty Naukowe. Uniwersytet Szczeciński”, No. 273: „Prace Instytutu Pedagogiki”, 3 (1999) pp. 39–45.

by children who attended only one year in a kindergarten for six-year-olds at a primary school. Concluding her reflections, Jaroni wrote that the assessment of school maturity should also cover all areas of maturity for learning mathematics and pointed to the beneficial impact of preschool education for achieving this maturity.<sup>55</sup>

Jaroni associated mathematical education, particularly solving word problems, with developing students' creative thinking in younger grades.<sup>56</sup> She recommended the 'crushing' method advocated by Edmund Stucki,<sup>57</sup> which consists of 'modifying, increasing or decreasing the number of data and their values, replacing data with others, giving up some data, as well as transforming a task, and specifying or generalizing a task'.<sup>58</sup> She also recommended the use of games for the mathematical education of primary school students, about which she wrote in the early 1990s. The use of mathematical didactic games promoted effective mastery of mathematical knowledge and skills by students, as evidenced by the fact that children from experimental classes showed better learning outcomes and had more permanent knowledge.<sup>59</sup>

In the first decade of the 21<sup>st</sup> century, Jaroni summarized her considerations regarding mathematics education in the younger grades. She wrote about the specific features of mathematics as a science, the nature of school mathematics, as well as the reasons and methods for teaching it in grades I–III. In conclusion, she argued that attention should be paid to the high didactic and educational importance of mathematics, which is given by its cognitive

55 Ibidem, pp. 42–44.

56 Eadem, *Zadania tekstowe oraz metody ich rozwiązywania jako stymulatory myślenia twórczego uczniów klas początkowych*, „Zeszyty Naukowe. Uniwersytet Szczeciński”, No. 220: „Prace Instytutu Pedagogiki”, 1 (1998) pp. 135–139.

57 E. Stucki, *Metodyka nauczania matematyki w klasach niższych*, part II, Bydgoszcz 1993, pp. 54–61.

58 E. Jaroni, *Zadania tekstowe oraz metody ich rozwiązywania jako stymulatory myślenia twórczego uczniów klas początkowych*, p. 137; eadem, *Rozwijanie myślenia twórczego uczniów klas początkowych w procesie kształcenia matematycznego*, „Zeszyty Naukowe. Uniwersytet Szczeciński”, No. 248: „Prace Instytutu Pedagogiki”, 2 (1999) pp. 257–269.

59 Eadem, *Wykorzystanie zabawy w procesie kształcenia matematycznego uczniów klas początkowych*, „Ruch Pedagogiczny”, 5/6 (1992) pp. 127–141.

and educational values. Therefore, it is worth devoting a lot of attention to it, equipping early school students with mathematical knowledge and skills and developing their mathematical thinking. She believed that mathematics was a tool for exploring reality, just like the ability to read or write. She thought that mathematics prepares students for solving life's problems and helps them adapt to the constantly changing reality. In her opinion, contemporary mathematics education in the younger grades should take into account students' natural creative abilities, developed through mathematical games and activities, and form intellectual attitudes that are characterized by the ability to independently overcome difficulties, shape logical and critical thinking and understand abstract phenomena mathematically.<sup>60</sup>

She reflected on a child's mathematical activity, its goals and types (noticing and using analogies, schematizing and mathematizing, assimilating and processing information, deducing and reducing, defining, interpreting and rationally using definitions, algorithmizing and using algorithms).<sup>61</sup> She came to the conclusion that mathematical activity is a natural, necessary component of a child's cognitive activity and a crucial factor in their development. She wrote that mathematics education should not be terrifying, but should accustom one to effort and perseverance, develop independence, inquisitiveness and criticism, and prepare for life in a changing reality. She drew attention to the fact that 'A student should create their own mathematics, arrive at concepts on their own and find their own path to mathematics'.<sup>62</sup> A teacher should guide students in such a way as to make the 'path to mathematics' 'accessible and pleasant, with a simultaneous sense of responsibility for making further education possible and effective'.<sup>63</sup>

60 Eadem, *Miejsce i rola matematyki w zintegrowanej edukacji wczesnoszkolnej*, in: *Dydaktyka ogólna i nauki z nią współdziałające*, ed. J. Świrko-Pilipczuk, Szczecin 2007, pp. 504–513.

61 Eadem, *Aktywność matematyczna – ważny komponent aktywności poznawczej dziecka*, in: *Integracja nauczania i wychowania*, eds. F. Bereźnicki, J. Świrko-Pilipczuk, Szczecin 2007, p. 197.

62 Ibidem, p. 200.

63 Eadem, *Miejsce i rola matematyki w zintegrowanej edukacji wczesnoszkolnej*, p. 513.

## Conclusions

Jaroni was associated with pedagogy from her university studies (1973) until the end of her life, first at the Higher School of Pedagogy in Szczecin and from 1985, at the University of Szczecin. She died just after her sixtieth birthday which meant she did not get to experience retirement. Interested in her professional work and focused on her teaching, organizational and scientific duties, she fulfilled these responsibly, conscientiously and properly. For 14 years, she was the head of an early school education department/team and laboratory, and for nine years, she was the deputy head of the Institute of Pedagogy of the University of Szczecin. Her teaching and organizational activity was highly appreciated, as evidenced by the rector's awards she received. She was scientifically involved in the issues of early school pedagogy, particularly detailed didactics. Her scientific achievements include texts on integration processes in times of change, teachers in the face of educational reforms, individual differences between children of lower grades in educational practice, and mathematics in integrated education. In 2008, she published a book summarizing her scientific achievements entitled *Dylematy integrowanej edukacji wczesnoszkolnej* [Dilemmas of Integrated Early School Education] (Kraków 2008), containing previously published texts.

Jaroni will go down in history as a person who respected students and employees. What remains are memories of many years of working together, meetings, snippets of conversations and exchanged smiles. She will be remembered as a good and kind person who was one of the co-creators of early school pedagogy in Szczecin and who strengthened its development.

**Streszczenie:** Artykuł dotyczy dr Elżbiety Jaroni (1954–2014), która przez okres studiów i całej pracy zawodowej była związana z Uniwersytetem Szczecińskim i jedną z jego wcześniejszych form – Wyższą Szkołą Pedagogiczną w Szczecinie. Tekst ukazuje jej biografię, rozwój zawodowy, pełnione funkcje w uczelni. Zawiera analizy dotyczące jej dorobku naukowego, który mieści się w zakresie pedagogiki wczesnoszkolnej. Jaroni pisała teksty naukowe dotyczące zagadnień dydaktycznych, poświęcone organizacji procesu kształcenia klas młodszych szkoły podstawowej, edukacji zintegrowanej (obejmującej klasy I–III) w procesie przemian oświatowych, jej założeń programowych i celów. Autorka poświęciła również swoją uwagę znaczeniu matematyki w procesie kształcenia dzieci klas początkowych. Podejmowała problematykę dotyczącą nauczyciela edukacji wczesnoszkol-



nej. W swoich opracowaniach naukowych wskazywała na indywidualne różnice między dziećmi i ich konieczność uwzględnienia w praktyce oświatowej. W sposób szczególnie podkreślała znaczenie przygotowania uczniów do samodzielnego uczenia się.

**Słowa kluczowe:** Elżbieta Jaroni, pedagogika wczesnoszkolna, edukacja zintegrowana, samodzielne uczenie się.

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