



## The assessment of progress in acquiring the basic school skills by the student with a moderate intellectual disability

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The following article addresses the issue of assessing intellectual disability from the interdisciplinary, especially psycho-pedagogical, point of view. It pays special attention to the students with a moderate intellectual disability and the difficulties which they have in acquiring such basic school skills as reading, writing and counting. However, the main aim of the research was to show all of the changes (progress) in the above-mentioned basic school skills in reference to the observed student with a moderate intellectual disability, which have occurred during the 10 months' time as a result of applying both, educational and therapeutic actions and an attempt to indicate the school's education opportunities based on the results of the research and teacher's opinions.

**KEY WORDS:** psychological and pedagogical assessment, student's competences, a student with intellectual disability

### Introduction

The process of assessing a child with intellectual disability with regard to particular development areas requires taking into consid-

eration an interdisciplinary approach: medical, psychological, pedagogical and social<sup>1</sup>.

On the grounds of the special pedagogy a properly constructed assessment allows to fully learn about the needs of a child with disability both, the ones of an educational and therapeutic character<sup>2</sup>.

“The assessment is based on:

- recognising abilities and deviations in development on the grounds of observed symptoms;
- stipulating reasons of mechanisms and consequences of developmental irregularities and difficulties in obtaining knowledge and skills”. “The assessment describes: the pace, rhythm and dynamics of a child’s development”<sup>3</sup>.

The assessment should be explicit, accurate and reliable. Accuracy thereof and recommendations (qualifying and pedagogical) determine influences of a rehabilitation character<sup>4</sup>.

The assessment constitutes an interdisciplinary process associated with cooperation of experts in many areas (in particular, a psychologist and a pedagogue); therefore, the assessment proceedings

<sup>1</sup> See: L. Bobkowicz-Lewartowska L., *Intellectual Disability. Assessment, Education and Upbringing (Niepełnosprawność intelektualna. Diagnozowanie, edukacja i wychowanie)*, Harmonia Universalis, Gdańsk 2011, p. 60.

<sup>2</sup> B. Trochimiak, U. Gosk, *Pedagogical Assessment of Students with Special Educational Needs (Diagnoza pedagogiczna uczniów ze specjalnymi potrzebami edukacyjnymi)*, [in:] *Special Didactics in Preparing for Education Students with Special Educational Needs (Dydaktyka specjalna w przygotowaniu do kształcenia uczniów ze specjalnymi potrzebami edukacyjnymi)*: academic textbook, ed. J. Głodkowska, Wydawnictwo Akademii Pedagogiki Specjalnej, Warsaw 2012, p. 140.

<sup>3</sup> J. Hanisz, E. Grzegorzewska, *Descriptive Assessment of Student’s Development: Assisted Exercises and Tests; Integrated Education in Classes 1–3 (Ocena opisowa rozwoju ucznia: ćwiczenia wspomagające i sprawdziany: kształcenie zintegrowane w klasach 1–3)*, Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna, Warsaw 2008, p. 15.

<sup>4</sup> J. Głodkowska, *Learning about a Special School Student. Educational Sensitivity of Children with Mild Mental Disability; Assessment and Interpretation (Poznanie ucznia szkoły specjalnej. Wrażliwość edukacyjna dzieci upośledzonych umysłowo w stopniu lekkim: diagnoza i interpretacja)*, Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna, Warsaw 1999, p. 30.

are long-lasting and related with adjusting the study procedure to the age and abilities of the child with disability<sup>5</sup>.

The assessment process executed in order to present the abilities of a child or possible progress in the scope of various skills, is always of a specialist character and, as has already been mentioned, requires cooperation of various experts and is usually executed in clinics. Results of given assessments enable learning about difficulties of a given child as well as indicating reasons for such difficulties. Thus, the multi-disciplinary assessment gives a chance to fully learn about the child's abilities, progress in a given area and difficulties they have<sup>6</sup>.

Taking into consideration the character of this study, it is especially important to draw attention to the process of psychological and pedagogical assessment from the point of view of a child with moderate intellectual disability.

As underlined by J. Sowa "psycho-pedagogical assessment comprises stating the status of intellectual development by a team of experts on the grounds of a diagnosis obtained as a result of many research methods and techniques as well as the analysis of the child's life history and their environmental situation"<sup>7</sup>.

Therefore, ongoing cooperation between experts, especially a psychologist and a pedagogue, is necessary in the assessment process, since:

- (psycho-physical) abilities of a tested child with disability are conditioned individually, are not fully known or unknown,

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<sup>5</sup> A. Wójcik-Rudnicka, D. Kohut, *Psychological and Pedagogical or Psycho-pedagogical Assessment? (Diagnoza psychologiczna i pedagogiczna czy psychopedagogiczna?)*, [in:] *A Child with Special Needs in Interdisciplinary Therapy (Dziecko o specjalnych potrzebach w kręgu interdyscyplinarnej terapii)*, ed. D. Kohut, Oficyna Wydawnicza „Impuls”, Krakow 2013, p. 91.

<sup>6</sup> B. Skalbiana, *Pedagogical Assessment. Selected Research Areas and Practical Solutions. (Diagnostyka pedagogiczna. Wybrane obszary badawcze i rozwiązania praktyczne)*, Oficyna Wydawnicza „Impuls”, Krakow 2011, pp. 25–26.

<sup>7</sup> J. Sowa, *An Overview of Special Pedagogy (Pedagogika specjalna w zarysie)*, Wydawnictwo Oświatowe FOSZE, Rzeszów 1998, p. 111.

- permanent changes in the child's development occur under the influence of various stimuli,
- there is a deficit in standardised assessment tools with regard to persons with disability<sup>8</sup>.

In order to present the potential of a child with intellectual disability or changes with regard to a given area (skills), experts: a psychologist and a pedagogue base on the so-called informal assessment techniques (interview, conversation with the child's parents, observation), as well as specific: adjusted to the age and ability of the given child in tests<sup>9</sup>.

The aim of the psychological assessment is to stipulate the level of intellectual functioning of a person tested, emotional and motivational processes<sup>10</sup>, orientation and executory: perception and motor functions, significant from the point of view of acquiring school techniques such, as: motor activity (low and high), visual perception, hearing perception, orientation in space, as well as in the scheme of own body, stipulation of handedness (laterality) and cooperation of all of the aforementioned functions. Furthermore, it is important to determine the psychological condition and socialisation of a given child<sup>11</sup>.

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<sup>8</sup> T. Oleńska-Pawlak, *Structure of Psycho-pedagogical Assessment in Individual Revalidation (Struktura diagnozy psychopedagogicznej w rewalidacji indywidualnej)*, [in:] *Assessment and Individual Revalidation of a Child with Special Educational Needs (Diagnoza i rewalidacja indywidualna dziecka ze specjalnymi potrzebami edukacyjnymi)*, ed. M. Klaczak, P. Majewicz, Wydawnictwo Naukowe Akademii Pedagogicznej, Krakow 2006, p. 8.

<sup>9</sup> A. Wójcik-Rudnicka, D. Kohut, *Psychological and Pedagogical or Psycho-pedagogical Assessment? (Diagnoza psychologiczna i pedagogiczna czy psychopedagogiczna?)*, [in:] *A Child with Special Needs in Interdisciplinary Therapy (Dziecko o specjalnych potrzebach w kręgu interdyscyplinarnej terapii)*, ed. D. Kohut, Oficyna Wydawnicza „Impuls”, Krakow 2013, p. 91.

<sup>10</sup> B. Skalbani, *Pedagogical Assessment. Selected Research Areas and Practical Solutions. (Diagnostyka pedagogiczna. Wybrane obszary badawcze i rozwiązania praktyczne)*, Oficyna Wydawnicza „Impuls”, Krakow 2011, p. 26.

<sup>11</sup> I. Czajkowska, *Pedagogical Assessment and Observation (Diagnoza i obserwacja pedagogiczna)*, [in:] *Corrective and Compensatory Classes at School (Zajęcia korekcyjno-*

On the grounds of pedagogy “the object of assessment comprises difficulties and failures of a student in the process of obtaining knowledge and school skills, reasons thereof and negative consequences to development”<sup>12</sup>.

The pedagogical diagnosis is aimed at:

- learning about students’ difficulties (both, in the educational and upbringing aspect),
- determining the level of knowledge and skills with regard to the binding core curriculum,
- determining the pace of acquiring knowledge,
- learning about the student’s approach to school duties, their level of motivation to undertake an intellectual effort<sup>13</sup>.

According to E. Górniewicz the following elements are included in the pedagogical assessment:

- “recognising the phenomenon,
- assessment thereof from the point of view of adopted development standards,
- development forecast”<sup>14</sup>.

As underlined by the aforementioned author, in the process of pedagogical diagnosis, the following factors should be taken into consideration:

- reading level assessment – knowledge of letters, ability to read aloud (senseless text, combined text), reading pace, reading

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*kompensacyjne w szkole*), I. Czajkowska, K. Herda, Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna, Warsaw 1989, p. 52.

<sup>12</sup> I. Czajkowska, *Pedagogical Assessment and Observation (Diagnoza i obserwacja pedagogiczna)*, [in:] *Corrective and Compensatory Classes at School (Zajęcia korekcyjno-kompensacyjne w szkole)*, I. Czajkowska, K. Herda, Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna, Warsaw 1989, p. 51.

<sup>13</sup> L. Bobkowicz-Lewartowska L., *Intellectual Disability. Assessment, Education and Upbringing (Niepełnosprawność intelektualna. Diagnozowanie, edukacja i wychowanie)*, Harmonia Universalis, Gdańsk 2011, p. 60.

<sup>14</sup> E. Górniewicz, *Pedagogical Diagnosis of Specific Difficulties in Reading and Writing (Pedagogiczna diagnoza specyficznych trudności w czytaniu i pisaniu)*, Wydawnictwo Adam Marszałek, Toruń 2009, p. 32.

- technique, reading correctness: identification and interpretation of errors in reading and understanding read text,
- writing level assessment – copying, writing from listening, from memory, assessment of the correctness of writing together with interpretation, assessment of the level of graphical record,
  - family environment assessment,
  - prognostic assessment<sup>15</sup>.

In the case of students with intellectual disability, a reliable assessment aimed at evaluating progress e.g. in learning, requires the assessor to be fully familiarised with the learning process of the aforementioned group of persons and their difficulties such, as:

- slow or very slow pace of work,
- difficulties with concentration,
- speech impediments,
- difficulties with understanding statements, orders, tasks,
- significantly lower graphomotor skills,
- impeded ability to conduct analysis and synthesis,
- difficulties in acquiring school techniques (reading, writing, counting),
- hindered or low level of understanding: contents of sentences, read text, concepts, rules and definitions,
- difficulties with memorisation,
- low level of independence,
- hindered understanding,
- a lack of motivation to obtain education at school,
- low ability of using gained knowledge in practice<sup>16</sup>.

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<sup>15</sup> E. Górniewicz, *Pedagogical Diagnosis of Specific Difficulties in Reading and Writing (Pedagogiczna diagnoza specyficznych trudności w czytaniu i pisaniu)*, Wydawnictwo Adam Marszałek, Toruń 2009, pp. 33–54.

<sup>16</sup> P. Jurkiewicz, B. Rola, *A Model of Work with a Student with Mild Intellectual Disability, Improving Effectiveness of Education of Students with Special Educational Needs (Model pracy z uczniem upośledzonym umysłowo w stopniu lekkim, Podniesienie efektywności kształcenia uczniów ze specjalnymi potrzebami edukacyjnymi)*. Training materials part II, the Ministry of National Education, Warsaw 2010, pp. 139–140.

While conducting pedagogical assessment it is also necessary to be familiar with the difficulties of students with intellectual disability in the scope of acquiring basic school techniques i.e.: reading, writing and counting.

In literature it is underlined that the difficulties regarding basic school skills (reading and writing) of students with intellectual disability result from a general damage to the intellect and to a large extent are caused by irregularities in the area of perceptual-motor functions. Furthermore, it is noticed that these difficulties do not solely depend on the level of psychological and motor disorders, but also on the child's educational stage. Especially at the first stage, that is, early childhood education, difficulties in remembering particular letters of alphabet and connecting them with a given sound are observed. During reading and writing students with (mild) intellectual disability confuse letters of similar sound and graphic sign. Moreover, the following errors are observed: adding words, letters or syllables, as well as changing the order thereof or omitting them altogether. The reading technique is quite lowered, usually the technique of syllabication or spelling (lettering) dominate and children have difficulties with conducting synthesis of read words. Reading and writing is done in a very slow pace. Lowered reading technique, slow pace and errors hinder understanding of read text. Learning how to write correctly is very difficult for students with intellectual disability. Usually technical, spelling, grammatical and lexical errors are observed. Letters are written in an unshapely manner and the handwriting is very uneven, shaky. There are also difficulties with adhering to the rules of spelling in writing. It is worth adding that speech impediments experienced by the aforementioned group of students to a large extent translate into acquiring school techniques mentioned above<sup>17</sup>.

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<sup>17</sup> G. Tkaczyk, *Methodology of Primary School Education and Upbringing in a Special School (Metodyka nauczania i wychowania początkowego w szkole specjalnej)*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 1997, pp. 294–296.

Students with mild intellectual disability, and especially with moderate intellectual disability also have difficulties with learning mathematical material.

These difficulties occur, in particular, in activities such, as: noticing similarities (analogies), generalising, abilities of using algorithms, mathematizing as well as copying, noticing regularities and schematising. There are difficulties with understanding the notion of a number, learning the first ten numbers and making mathematical calculations. Students with mentioned disability work slowly, quite hesitantly, require teacher's approval and have a difficulty with correcting errors indicated in the task<sup>18</sup>.

Therefore, the process of assessing a student with intellectual disability (especially moderate disability) is executed in order to present their abilities or potential changes in the scope of a given skill, requires taking into consideration individual abilities of the assessed person, adjusting test tools (in fact, establishing them independently), ongoing observation of undertaken activities, following the child's workflow.

The final result of a reliably conducted assessment comprises determining the level of functioning of a child with the said disability (indicating their abilities and difficulties, presenting changes and progress) in the scope of various skills. Results of conducted assessment shall provide grounds for planning educational and therapeutic activities for the student.

## Methodology of own tests

The results of conducted psychological and pedagogical assessments (usually presented in the decision on the need of special edu-

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<sup>18</sup> H. Siwek, *Mathematical Abilities of Students of a Special School. An Outline of Theory and Propositions of Methodological Solutions (Możliwości matematyczne uczniów szkoły specjalnej. Zarys teorii i propozycje rozwiązań metodycznych)*, Wydawnictwa Szkolne i Pedagogiczne, Warsaw 1995, pp. 5-27, 60.

cation) to a great extent determine discussion on the further education path of students with intellectual disability. Therefore, the study was aimed at learning about changes (progress) that occurred in the scope of acquiring school skills by a girl with moderate intellectual disability, at a younger school age, as a result of conducted educational and therapeutic activities and an attempt to indicate a possibility (a form) of educating the tested student on the grounds of obtained results and teacher's opinion.

Thus, the following research question was formulated:

What kind of change in the scope of basic school skills: reading, writing and counting was observed within the 10 months as of the first test conducted on the student, as a result of conducted educational and therapeutic activities?

The applied test method was a method of individual cases. Within the aforementioned method, the following documents were analysed: medical opinion, decisions on the need of special education, schools' opinions and speech therapist's opinion, on the grounds of which the tested child was characterised. The pedagogical assessment (both, the first and the second) was conducted by the article's author in one of the psychological and pedagogical clinics located in the Lesser Poland Voivodeship. In the pedagogical assessment the internal test tools used in clinics as well as selected worksheets included in the publication *"Development Assessment of a Student with Moderate Intellectual Disability: Worksheets"* (*"Diagnoza rozwoju ucznia z niepełnosprawnością intelektualną w stopniu umiarkowanym: karty pracy"*) by A. Tanajewska and R. Naprawa were used. The conducted assessment allowed stipulating the progress (changes) in the scope of acquiring basic school techniques (reading, writing and counting) by the tested girl with moderate intellectual disability.

The person tested was a student with moderate intellectual disability at younger school age, attending an integration class. The establishment attended by the girl is located in the Lesser Poland Voivodeship. Detailed information on the tested student has been presented below.

## Analysis of an individual case

As has already been mentioned, a person tested was a girl at younger school age with diagnosed moderate intellectual disability attending primary school with integration branches.

The first opinions of school attended by the student imply that at the beginning, the girl was reserved, did not undertake any communication activity with her peers, did not participate in games with her colleagues. During lessons she did not show any activity, worked slowly and required teacher's assistance in performing tasks. She had a significant difficulty with identification of letters and digits. With time, progress was observed in the scope of school techniques, especially writing (copying letters, properly joining and placing letters in ruling), however, reading and learning mathematical material continued to be significantly difficult. Moreover, she also had difficulties with concentration and understanding orders. In order to improve the situation the girl participated in compensatory classes. It was noticed that she reacted differently during individual classes - clearly made a connection with the teacher, was much more open and undertook verbal activity.

The tested student was diagnosed with: mutism and oligophasia. The speech therapist's opinion implies that the girl's statements are quite scarce, chaotic and she has difficulty with constructing them. Furthermore, the tested girl's speech is characterised with:

- elision,
- substitutions,
- simplifications of groups of consonants,
- devoicing,
- distorted articulation of sibilants.

Furthermore, a lowered mobility of the articulative apparatus as well as quite significant irregularities in the scope of auditory analysis and synthesis of words were noticed.

In order to accurately picture intellectual abilities of the student, presenting results of psychological as well as pedagogical assess-

ments conducted twice, with a special distinction of changes in the scope of acquiring basic school skills: reading, writing and counting, was focused on.

## **Results of the first psychological test**

The result of the first psychological test indicates student's moderate intellectual disability (the first decision on the need of special education was issued with the diagnosis: mild intellectual disability due to the fact that it was the child's first test). Moreover, the conducted psychological test implies that the student has difficulties with:

- abstract, cause and effect thinking,
- executing intellectual operations, in particular: abstraction and generalisation, which translates into the ability to create concepts,
- thinking on the grounds of analogy,
- inference,
- memorisation,
- understanding orders.

Disorders in the scope of auditory phonological memory were also noticed.

Moreover, the student has communicative difficulties – shows a problem with formulating statements, has a very small vocabulary.

The psychological test implies that the girl is a kind, calm person with positive attitude to the surrounding reality.

## **The result of the first pedagogical test**

The conducted pedagogical test proved that the girl:

- cannot read – difficulties in reading result from incomplete knowledge of letters and inability of conducting the process of words' synthesis;
- understands contents of short stories (presented by the person conducting the test), however, requires assistance while formulating response – guiding questions,

- has difficulties with writing – a problem with copying the graphic shape of letters (small and capital), words are written incorrectly, in a distorted manner;
- did not acquire the core curriculum in Polish from 1st and 2nd class of primary school;
- with regard to mathematical skills the girl did not fully learn counting to twenty (she showed difficulty with recognising certain numbers), she does not identify all basic geometric figures, however, she understands special relations, classifies, compares objects, numerical groups, operates with numbers (adding and deducting numbers over the threshold of ten) on the grounds of specific information;
- works in a slow pace,
- shows communicative difficulties.

During the pedagogical test the student did not show verbal activity, she was very shy, required motivation, full instruction, assistance from the person conducting the test.

In the recommendations of the decision on the need of special education the necessity to adjust educational process (contents, methods of education, forms and didactic materials) to individual abilities of the student as well as participation in therapeutic classes: revalidation and speech therapy were underlined.

Another psychological and pedagogical test was conducted after 10 months as of the first test. Thus, what kind of changes, in particular, in the scope of school techniques (reading, writing and counting) were observed at the tested student as a result of educational and therapeutic activities conducted at the school?

## **The result of the second psychological test**

The result of the second psychological test confirmed the student's moderate intellectual disability. Furthermore, the psychological test revealed that:

- the student's development proceeds inharmoniously,
- the girl obtains better results in categories such, as:

- social situations - understanding them,
- visual and motor learning,
- noticing relations such, as: a part - whole.

Whereas, lower results are obtained in categories such, as:

- understanding verbal and non-verbal material,
- general knowledge and vocabulary.
- visual functions of the student are weakened, whereas, perceptual-motor-auditory functions are disordered.
- the student does not undertake to perform tasks, which are difficult for her.

In contact with the other person the girl smiles, attempts to communicate, especially nonverbally (body language, gesture).

### **The result of the second pedagogical test**

The result of the second pedagogical test revealed that:

- the tested student continues to have difficulties in reading, however, there has been a noticeable progress in this scope; the girl started reading simple, one-syllable words, conducting a synthesis thereof;
- similarly as during the first test, it was noticed that the girl is able to concentrate on a presentation of a short text and answer questions asked by the person conducting the test, given answers suggest almost full understanding of the text;
- it was noticed that the student does not have significant difficulties with putting together a comic and constructing simple sentences on this topic;
- the tested student continues to have difficulties in writing. A particular difficulty with writing digraphs was observed. Other letters are in majority written correctly. Difficulties with writing simple words from listening and from memory were observed within attempts made to write. Whereas, writing from an example was not difficult to the student;

- there were noticeable changes in the scope of mathematical skills: the girl learnt counting almost up to 100 and writing numbers almost up to 40, and attempts to multiply. The girl continues to make operations on numbers only on the grounds of specific information;
- the student improved in the scope of communication. The girl is more open. While constructing a statement she continues to base on single words, however, she starts to communicate with full sentences.

During the test, significant changes were noticed in the student's behaviour. The student was smiling, cooperated willingly, performed tasks with engagement. Nevertheless, she required permanent observation, hints and assistance of the person conducting the test.

The opinion given by the special pedagogue working with the student on a daily basis implies that the difficulties in the scope of school techniques: reading and writing have remained, yet, teachers and therapists notice progress in this scope. Not only with regard to educational, but also emotional sphere, as well as with regard to the development of speech.

## Final conclusions

As has already been mentioned, the aim of the conducted tests was to learn about changes in the tested student with moderate intellectual disability that happened within a period of 10 months as of the test conducted for the first time in the scope of acquiring basic school skills, as a result of executed educational and therapeutic activities and to make an attempt to stipulate the possibility of education on the grounds of obtained results and teacher's opinion.

The result of the conducted pedagogical assessment confirmed the girl's small, yet, significant progress in the scope of acquiring school techniques (reading, writing and counting), which comprises an element of undertaken educational and therapeutic activities

executed both, at school and outside the school. The fact of a noticeable progress in this scope, as confirmed by teachers and experts working with the student on the daily basis, is significant. After a period of 10 months, the first signal of changes happening in the child's functioning constituted a significant progress in the scope of communication. The girl cooperated willingly, gave answers to questions asked, worked diligently and with engagement. Nevertheless, it was noticed, as also underlined by the special pedagogue working with the student, that during performing tasks the girl required permanent supervision, assistance in undertaken activities, which proves incomplete ability of the student to independent work (also during a class). Thus, a question, whether education of the tested student with moderate intellectual disability in the conditions of an integrated class constitutes a beneficial solution and if it equips the student with necessary knowledge and skills should be asked. The special pedagogue's opinion implies that continuing education in the integration class shall have a beneficial impact on her emotional and social development, as well as on the acquisition of school techniques. However, despite assurances, there are still doubts, if, in fact, the education in the aforementioned conditions provides the student with the possibility of full development, i.e. if it prepares the student (as far as possible) to live independently in the society, in the future? The answer to this question does not seem fully unequivocal and an attempt to indicate the best form of education for the tested student at this stage (in my opinion) is not fully possible, as it is an aggregate of many factors. Everything depends on the student's family environment, its engagement and awareness of the rehabilitation process, on the school – teachers working with the child, their approach and knowledge on the issue of education of persons with intellectual disability (especially moderate disability), but especially on experts: psychologists, pedagogues, speech experts, pedagogical therapists, professional counsellors, employees of the psychological and pedagogical clinic and their mutual cooperation.

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