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SUMMARY. This article is a case analysis about a young person defined by the psychology and pedagogy as 'person with learning difficulties'. It presents a new-type approach of 'skill-developing pedagogy' ('developmental pedagogy') with tools of qualitative research. It is a description of an experiment, where finding the individual 'motivating-points' (mainly music) of a secondary school student with intellectual disability, and using a special method with intellectual 'star-like-excursions' prove how it is possible to work with success and delight even in fields of mathematics, history, geography, literature. Furthermore, these results are catchable not only in the fields of knowledge(s) and skills but in the changing of the features of the personality as well.

Keywords: special education, developmental pedagogy, music

Fixing in advance I would like to notify to all those who would like to read a scientific article with traditional and corresponding methodological tools in the following:

Firstly, I am a musician and a music pedagogue, my doctorate degree is in the field of music performance (DLA). Having no formal studies in the field of 'special education', I might not have the right to publish an opinion without having very special experience in this field.

Secondly, I do not undertake the category of 'case-description' as definition of the genre of this article either, because of two reasons:

I do not mean this writing to be a scientific article as it does not meet traditional scientific requirements, furthermore the youth I am going to speak about means more to me than a 'case-description'.

Still, in spite of the above mentioned arguments, because of the encouragement of a colleague specialized in pedagogy, furthermore as the

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article is on 'skill-developing pedagogy' ('developmental pedagogy'), I think that it is worth sharing a recent special professional challenge and experiences/emotional experiences of mine with experts in this field.

If we want to determine exactly the genre of this essay and its research methodology, we need to say it is qualitative research and a case analysis. In the context of communication, because of the above mentioned reasons, the genre of the following article can be determined as pedagogical reflexion in the form of 'quasi report'.

One of my former colleagues helps with developmental pedagogy tasks in a secondary school for secondary students with intellectual disabilities. In her group she took notice of a 17-year-old girl who could sing more nicely, and was more attracted to music than the average student. Thus, my colleague asked me to meet this girl so that I could examine whether her music sensibility is really outstanding; and if it is so, she asked me if I could do anything for her to make better use of her abilities.

To my first surprise as a spontaneous reaction, I asked my colleague some rather 'impolite' questions, as I have no relevant experience or information about the world of people with intellectual disabilities.

This statement is only partially correct, though, because I attended a concert given by Down-syndrome children where I was fascinated by their performance. The mental effort that could be seen in their eyes shone through the production, really and deeply touched me...

I gathered background information about the origin of the girl's state. When she was born, suffered brain injury, probably because of the state of lack of oxygen. It is the most noticeable in the area of her brain which is responsible for mathematical functions and logic. (Later, during our meetings it had been proved as in adding any one-figure numbers she could make mistakes.)

Later I learnt from her mother that according to medical examinations, in that part of the brain of the girl there can be found a 6x2x1,5 cm sized *liquor cysta*. Most of the problems are caused by the absence of this part of the brain. Studying her family environment revealed that this girl lives in a loving family, her parents and her sister take care of her, especially her mother deals with her very much. Without thinking, listening only to my instincts, and without measuring the possible outcomes, I undertook working with the girl for a semester.

Our first meeting was at the end of January 2012, when this colleague, the mother and the form-master of the girl appeared in my office, together with the girl (let's call her now Sophie) herself. To their question whether they should go out while I talk to Sophie and she sings to me, I protested most definitely. I wanted all of them to sit down and to take part in this conservation together.

I would have liked to know how communicative Sophie is. I asked her about school, about her favourite subjects and about the subjects she did not like. With roving looks here and there, she answered in a cheerful mood. As the most hated subject she pointed out, of course, Mathematics, but she declared History and Hungarian Literature as her favourite ones. I was pleasingly surprised when I heard this. Sometimes I involved her mother and my colleague into our discussion for a few sentences. Her mother said that Sophie had been waiting for this meeting very much, she was excited in advance and practised the song many times she wanted to sing to me. Then as a lead up, she buckled up to sing and 'approached the world' with the song *"It goes by just now..."* by Quimby.

From the viewpoint of music making, her production was absolutely average, even with problems in intonation because of it being acappella, but the faith of her performance caught me strongly. I praised her and we talked over our common weakly singing lesson. Perceptibly she was glad. Going out I talked to her mother privately and I asked whether Sophie was aware of her problems and her abilities. She answered, fairly yes, and Sophie knew why she went to a special elementary school and now to a similarly special secondary school. The mother's answer was very positive, because it showed that the background of the family is not simply a loving one, but at the same time down to earth as well. They do not create a closed, special world for her, they do not want to protect her by any means from the outside world – even because of their love. The parental attitude openly and purposefully undertook the difficulties. The relationship between the mother and me was friendly and open from the very beginning till the end of our 'project', even after, such as with Sophie.

As I have not had either any knowledge or experience in the task which was waiting for me, I could rely only on my experimental experiences and my intuition. Of course, I did not have any doubts about the general transfer effect of music. At the same time, my college students with a newtype psychological and pedagogical approach in their excellent works on national scholarly competitions clearly proved that music making – beyond its usual naturally working transfer mechanism – could be stimulating in another way, with the help of fantasy, by creating association-fields or making them stronger. These can interfere even with the area of mathematics or grammar/spelling and this could be a well-working opportunity to improve different problems for many people.

Accordingly and suitably Sophie's love for music, I did not focus on the development of her music skills, but something else which is a lot more. I would have liked to reach achievement in developing her mathematical abilities, her structure of thinking, stereoscopic vision and fine-mechanical

motion while dealing with her favourite subjects, like Literature and History and beyond these with her best 'emotional self-expression tool', singing. Besides, I was firmly resolved to develop Sophie in fields which could mean gaining everyday practical knowledge and skills for her as well.

I would like to share the topics, approaching methods and tools of some of our meetings. Of course I do not intend to provide a full list. Let them be only thought-provoking selected excerpts, even if I guess these possibilities are known and used by each pedagogue, they might not necessarily serve such a special aim as mine.

In accordance with my purposes I chose right for the first 'lesson' a song ('Egri históriának summája' /a verse-chronicle about the town Eger/ by Aurél Kern – Sebestyén Lantos Tinódi) which gave a rich and wide scale of pedagogical possibilities. This song (with piano accompaniment), known by everybody is about the fight for Eger Fortress. This music became our starting-point. I sang it while playing the accompaniment as well. After my performance, we tried to summarize the story of the song, then I asked Sophie to read the text. At once it was obvious that not only the reading of the separated words, but also following the lines one after the other was a problem. Similarly, simply the reading of the year 1552 caused a serious problem.

From the first lesson and on all of the following ones we used consequently a special well-tried working method and practice. In connection with the actual music we dealt with literature, history, geography, architecture, religion and mathematics besides music, in more and more enlarging circles, thus broadening Sophie's horizon.

All previously gained knowledge was repeated over and over on the next lesson and then with new aspects extended. When we had the opportunity, as 'homework' I gave some special tasks so that she could enlarge her knowledge, even with the help of her mother, using the Internet. She always reported about her work the following lesson with pride. Accordingly, in connection with the above mentioned music, 'Egri históriának summája' in the field of mathematics we dealt with

- the difference between cardinal and ordinal numbers and the right notation of them,
- dates placing them into the right century,
- the abbreviation of the centuries,
- comparing of the nowadays used and 'traditional' notation of numbers (Roman numerals),
- writing of not complicated Roman numerals.

Finally we practiced numerals which can be found in historical texts or literary works, like XVIII., XIX., XX., XXI. etc.

 We played a kind of game to show how many ways and how many variations we could create different Roman numerals with the same number of sticks (e.g. II, V, X).

In the field of literature and music we dealt with

- getting to know the nowadays not or extremely rarely used words (like 'summa', 'história', 'vala') and explanations of them,
- the tale/story of the roman 'Eger Stars' by Gárdonyi Géza,
- the musician Tinódi and his Sobriquet (his middle-name) which was given by a medieval instrument: the lute. From then on I played the accompaniment with voice timber of lute with the purpose of a more authentic performance.

In the field of history we dealt

- with political characters playing important roles in historical times of Hungary like Turkish and Austrian Emperors and Hungarian King,
- with the siege of Eger Fortress, with the defenders of the fortress and with the enemy.

In the field of religion:

- Who are called Christians and heathens?
- Who do Christians and Moslems pray to?

In the field of architect:

- What is the place of prayer for Christians and Moslems?
- What does a minaret look like and for what different aims was it used?

In the field of geography:

- How does the map of Hungary look and where can Eger be found? Now, it came immediately to light that a map does not mean too much for Sophie. She was not even fully aware of which colour symbolizes water on the map. So, we began to enlarge her geographic knowledge, right away with a 'blind-map'. I know that it is even for people with average geographical knowledge one of the most difficult tasks, but I thought that a normal map would be too crowded and difficult for her. At the very beginning of our 'blind-map game' and later as well I drew only the frontier's contour of Hungary, as well as the Rivers Danube and Tisza as comparing lines on the board. After the second lesson Sophie was able to draw these two main rivers – without help – from boarder to boarder/!/, quite correctly.

She familiarized easily with the concepts and positions of Transdanubia, Trans-Tisza Region and the so-called Duna-Tisza-Köze (Hungarian territory between Danube and Tisza), realizing that besides these rivers there was nothing else on the map. On the next lesson she could also show them by herself. We also dealt with bodies of water: lakes and rivers (in the list for some reason Sophie always mentioned first Lake Fertő). Getting on, after a short time she was able to draw Lake Balaton and the Lake Velence on the more and more detailed blind-map. The first town, signed on the map was of course Eger.

As 'homework' I asked Sophie to draw from lesson to lesson a new town or city which was chosen by her on this blind-map. On the following meeting she signed Pécs on the map on the board, saying her mother did her studies there.

This choice of her naturally provided us with two evident opportunities. Firstly, to talk about the common historical heritage (Turkish occupation and minarets) of Eger and Pécs. Secondly, drawing both Eger and Pécs on the map, I drew her attention to the rule that different sizes of circles on the map refer to correspondent sizes of the cities. For this reason in the following period when a new city appeared on the map, we dealt with the size of them as well. This happened while drawing Budapest, Debrecen, Szombathely and all of the other cities which were searched by Sophie and with the help of her mother using the Internet.

When Baja was also placed on the map, after Budapest and Szeged, we could play a new game as she signed the cities close to rivers. By the time two rivers, three lakes and six-seven cities could be found on the map (all of these were drown by Sophie herself/!/) I called her attention to the geographical position of our city nearly in the middle of the country.

I tried to find out how Sophie is able to understand other signs on the map. She knew the points of the compass, even after a short time she was able to list the four cardinal points, but she could not recognize them on the map.

After having written their capital initials, she managed to handle the situation and in a short time she could define cities' positions with fine precision. Even the question: *"Where is Pécs from us?"* Sophie answered with the fine definition that a bit westerly and a bit southward. And from then she could define any city's direction from any optional geographical point (city, lake etc.)



E. g. 1

In spite of this, it was not surprising that when I looked out of the window in an uncertain direction asking where Budapest was, she did not know the answer.

Fortunately our meetings were organized in the mornings so we could precisely see the rising sun. Standing together towards its direction and scanning the 'Cardinal points rhyme' (Roughly translated as "Pointing East and West we'll find, North in front, and South behind."), we were able show the directions of the Cardinal points correctly. After these, based on her acquired self confidence in the field of map-handling, Sophie was able to show where Budapest truly could be found. In other words, in my opinion, she could 'translate' or 'transform' the visual world of the map or the 'virtual world' of the map to the language of the real world.

Considering that Sophie named literature as one of her favourite subjects at our first meeting, I prepared with a song for one of our lessons which – as I supposed – could have been close to Sophie because of its topic (love) and its expression tools, moreover – as I hoped – it would develop her associative abilities and the variations of her verbal self-expression.

To achieve this, I chose the song of Kodály 'Magos a Rutafa', which – due to for example its required rendering and the much more complex, difficult harmonies – was a much bigger challenge for her than any music we had dealt with before. Anyway, just at the very beginning when we settled in the Music Room, among the pictures of the young Liszt, Bartók and Kodály, Sophie 'picked out' Kodály, saying that she likes him more than anybody.

And when I performed the song, Sophie's eyes filled with tears.

We were talking about the meaning of the text and I asked her 'wondering', with imitated obtuseness, whether there exists at all such a high tree in the world like the one in the song. She thought for a while, and then her answer was *"no"*. I asked her what this text could mean. Although she didn't know, when I asked Sophie how the girl and lad in the text felt, she answered they were in love with each other. From this point, we began our common 'play' or 'game' which led us over the visible blanket of the words, to a special, 'curtained-off' world of metaphors, where we could walk in and out, any time we wished.

At the beginning I said such simple figures of speech like (roughly translated as 'loan translation') *"I am in a cloudy mood."*, *"I am in a flowery mood."* Although at first with some help, I explained the meaning of these sentences, but later, even fairly soon, Sophie herself became conscious of the real meaning of the metaphors without help. Later, we created similar ones, mainly using some mood or an everyday idea as the root of the metaphor, e.g. *"It has clouded for me."*, another time setting out from the pictures of the above mentioned Kodály song, like *"a sea of my troubles."* At the very end, Sophie herself was able to invent metaphors to my requests for different moods. One of my favourite ones which Sophie worded *"I am in a bird-chirpy mood."*

I chose the 'Number music' (composed by the excellent Hungarian music pedagogue László SÁRY) which is one of the so-called 'one-minutelong music game' for several reasons. First, because I thought that with them all of Sophie's conflicts and stress caused by mathematics, can be channelled or at least blunted. On the other hand, I thought it was possible to speed up Sophie's 'think-ahead-processor'. Later, it clearly proved to be true: this music could help in Sophie's thinking and also in the procession of reliable counting, using the cardinal numbers, when we didn't start with 'one', but – with calculable logic – from 'two', 'three' e.g. as well.

Besides these, when counting became faultless, this music was able to include the planned contrast of counting with shouted and whispered numbers as well into the performance. However, finally, it was fully expanded when (in the note notated) clapping and stamping were added to music making, which also require special coordination, high punctuality and togetherness of all; in-advance-planned execution.



E. g. 2

Into the performance of music I also involved the mother too and of course I also took part myself in the music making. So this work transformed into a common game, in which anyone of us could make spectacular mistakes which always caused great exhilaration. By all means, this joy of game relaxed the intellectual effort (and the coming up emotional affliction) which – because of the divided attention to more things at a time because of the different types of activities – can be very exhausting for everybody, not to mention Sophie.

In this 'note' – moreover notated with Roman numerals – the structure of the lines is either down- or upwards-going, which is rather difficult to follow, besides one cannot even rest for a single moment, because the 'scan' of the counting-rhyme-typed music and the rhythm /steady beats/ don't allow these sudden standstills. What is more, in fact, the music is not too short, either. In the 'normal' (from the beginning to the end) proceeding one-part performance the structure becomes 'thinner', which makes concentration easier. But when we can realize music making on an acceptable level, i.e. Sophie was able to concentrate throughout, not only for a short duration of the performance, then I turned the music into the opposite direction. It meant that though the duration was the same, managing the music making was more difficult because of the forms of the structure and other activities became 'denser', requiring the increase of the level of concentration, while leaving shorter and shorter reaction time.

In addition to these, I applied other possibilities as well. I made these methodological steps complete with the variations of the different directions and faster tempos, we performed it as one- or two-part music etc., of course within the boards of achievability.

I also gave this score to Sophie and her mother for playing this music at home. As a result of this, Sophie's abilities in the fields of concentration to different parameters and activity-forms at the same time, furthermore to realize them – basically and significantly changed.

My daring plan, which was that instead of the very occasional success of the simplest first rules of arithmetic (e.g. addition using one-figure numbers) I introduced the simple fractions to Sophie, what is more, she could use them – well, this plan may seem unrealistic and hopeless to experts. However, based on my childhood memories on how my parents, who were engineers, helped me perceive and understand the concept and meaning of fractions, besides being aware of Sophie's attraction to music (furthermore with the developmental intention of rhythmical and score reading skills), I thought all these things might help us face this seemingly impossible task. As

a preparation we sang such 4/4 time-meter melodies, which contained the simplest rhythm values. Of course according to the pulse of the melody (steady beats) at the same time we were walking and singing at the same time (after the practice of walking on an imaginary straight line, walking round a small chair with four steps) because even the purposive-realized, steady-speedy walking itself caused some problems for Sophie. We made it perceptible with the stressing of the bar's 'main stress' (always the back of a chair in our practice) that each 4 quarter-long aggregated rhythm-values in the music action/process form a complete 'time-sequential' unit.

In the following lesson we began to 'play' with three apples of the same size and shape. We left one of them in whole, and after some encouragement Sophie cut the second apple in two parts, then the third one into four slices. She managed to do this only with my help partly because of her scanty manual skills, partly due to the limited ability of drawing among a real or an imaginary line. The perception of the idea 'same size' also caused her difficulties as well. (For example, when she wrote numbers on the chalk board, their size and spatial position were realized always with considerable difficulties.)

First we dealt with the apples which were cut in two, then in four parts, continuously comparing the single fraction with the whole left apple. We named, each specific apple slices, several times repeating e.g. *"Let's count, how many parts did we cut this apple into? Into four. Are these four apples? No, it is only one fourth, it is also one fourth [...]"*.... And so on...

After this, Sophie chose from among the pieces of paper I prepared in advance and mixed, the one which was the most similar to the one fourth of an apple, then – with the help of the cut paper-clichés – first, leading her hand we drew the arch of the circle-sector on the board. Then she drew alone what a one-fourth apple looks like. Following this, accurately below them, we wrote the equivalent of the figure, while simultaneously loudly saying the name of it, and Sophie could write on the 'paper-apple slices' their values – represented by fractions.

The following task was about joining the possibilities of the sliced apples. We 'enchanted back', 'soldered' the single one fourth apples with different variations to a half or to a whole apple, with considerable development of Sophie's fine-motor, more exactly manual skills. After this we did the same with the paper-clichés, which was not a simple task because putting in order the mixed and not ordered fractions to a whole circle – because of Sophie's limited logical and visual representation abilities – met with serious difficulties. Following this – first, based on the original single 'paper-clichés' then formed them into a real, whole circle – we described the 'addition' with the fractions on the board. Finally, just below the figures, we

wrote the fractions with the mathematical operation, continuously comparing them, while loudly saying both the numbers and operation as well. It was not a simple task at all because in spite of the 'leading line', the division signs were placed often into different altitudes, besides, the size of the numbers were very much different from each other, but the continuous warnings and corrections finally brought an acceptable correct appearance of the whole operation on the board. Of course, we drew the rhythm values onto the backsides of the 'paper-clichés' as well: the whole note looks like the whole apple, and we memorized the half notes based on a symbolic motion of how we cut an apple into two parts, similarly we drew the tails to the notes.

Considering that once Sophie had said so proudly "I know the 'tá – ti-ti'.", therefore we repeated this exercise in the following lesson, then we extended it in a way that along with one of the 'original' one-fourth apple we cut the other one into two halves, thus from that time we had all of the most important basic rhythm values from the eighth note, closing with the whole note. On each sector's front side there was already the picture (note) with its rhythm name and on the back side of the 'paper-cliché' the rhythm value's fraction-shaped form.

E. g. 3



Keeping to the expected methodological steps, among the several variable tasks, the most important minutes were when at my request, from paper-clichés, containing half -, quarter - and eighth notes Sophie made a whole apple – well now, she was able to manage it, even she could even flawlessly write fraction forms on the chalkboard.

At this phase of our common work, the benefits of the chosen qualitative research method turned out as being flexible, to be capable to reflect on unexpected situations.

Unfortunately because of the limited time we could not deal with the thirds bound up with sixths, although Sophie's personal experiences (by comparing the Mercedes emblem with the standard serving of pizzas on the table) might be the base of an evident comparison, recognition and effective mathematical operation's application.

This 'subproject', respectively its success – by chance – proved the truth of the idiom "The proof of the pudding is in the eating" in our last meeting, since the previous lesson was finished with my sentence, turning to the mother: "Well, we should meet at the usual time, at '3/4 9' (At guarter to nine)". Whereupon Sophie asked: "At quarter to nine? What time is it?" From this question it was deducible that she knows neither the clock nor time definition described with even the most general terms. I was highly surprised because up to that time I had not thought in this dimension. So, because of this - as my original aim was to make the knowledge and developed skills practical – I bought for our last gathering a 'conventional set technologic' clock with traditional face and hands as a present. We observed how the hour- and minute hand move. Movement of the latter one (minute hand) - similarly to the motion of when we drew the fourth-, halfand three-fourth-valued sectors based on the similarly cut apple pieces -Sophie similarly followed on the clock face. In two minutes, no matter how I varied the guarter, half and three-guarters on the clock face, she was capable to say what time was with no mistakes. It was an unforgettable achievement for both of us.

So, the lesson finished with this success, and we finished our work and said farewell to each other. Months later meeting Sophie's mother, she told me that together with her two other favourite toys, Sophie sleeps together with the owl (characterized by the household as the wise and smart bird) which she got from me for her 'name-day'.

Recently I met Sophie, she was together with her elder sister. She came to me and asked, whether we would meet in autumn....

According to the above, I think, it is understandable to everyone why I declared at the very beginning of this writing that I could not speak

about a 'case-description' of all the experiences I shared here. At the same time I hope that it managed to give light on the fact that we can achieve favourable results among these young people by creating and reinforcing transfer-typed functional systems and by a playful but conscious; manycoloured, kaleidoscope-like rotation of them. Furthermore, these results are catchable not only in the fields of knowledge(s) and skills but in the changing of the features of the personality as well.

As feedback, I was confirmed by Sophie's teachers as well. The secondary school teacher characterized her by saying that challenges basically decrease her feeling of security and self-confidence, while her emotions were at the given time extremely moody. At the same time this colleague realised that as a result of our week-to-week lessons, Sophie became strong among her classmates because of her development and challenges, and she was very proud of herself. Similarly to the above, the 'skill-developing educator' colleague also accounted on that Sophie's success during our mutual work made her even at school more lighthearted and communicative, even her sudden emotional waves (arising from her age) perceptibly and significantly decreased.

Based on the actual results, I think that these activities; this 12 - lesson long practical 'micro study' – mostly because of the chosen working method, along with the feedback we received promptly and later from different professionals – can be considered successful from several viewpoints.

At the same time I am convinced that finding the individual, special 'motivating-points' and starting from the basis of a common range of interest, similarly to the above described and chosen method, namely with intellectual 'star-like-excursions' it is possible to work with similar success and delight, even in 3-strong micro groups as well.

However, this might be the challenge of all the experts who are really skilled for helping young people who are defined by the everyday language as 'mentally retarded', by the psychology and pedagogy as 'persons with learning difficulties', but in whom there is so much curiosity, enthusiasm and unbelievable potential.

REFERENCES

Note: Literature is not included in the source list at the end of the article, because to my knowledge, this type of approach to this problem and the associated working method have not yet been used.

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