DEVELOPMENTAL E-BIBLIOTHERAPY, A NEW METHOD IN THE LIGHT OF A PILOT STUDY[1]

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Those informal learning possibilities that contribute to student's personal development demand a space among the tasks of educating and teaching institutions. These informal learning environments can be formed outside lessons, or they can be fitted into the activities of the whole-day school. The indirect communication, for example chatting, posting to each other are active parts of student's everyday activities, which more and more eliminate direct interpersonal communication and can have an effect on later social relationships, in the case of a workplace for example. However, because of its general incidence and popularity digital technology isn't evadable, and we have to reckon with its very strong motivational power. On e-bibliotherapy meetings the use of digital devices appear, which beside the development of digital competences, also functions as an inducing of personal interactions.

Keywords: bibliotherapy

Why is e-bibliotherapy needed?

Researches have shown (e.g. PISA-reports), that the Hungarian teens achieve more and more weaker results compared to the OECD-average in reading comprehension and creative problem-solving. The declining results is caused by the fact, that the gap between weakly and well accomplishing ones, which means that the weak ones became weaker. The result also indicates that the number of those is increasing who – lacking these competences and skills – are endangering their further studies, and their chances to settle on the labour market are declining.

Foreign examples show, that teachers have applied the method of developing bibliography within classrooms, for instance to handle aggressive students, to socialize the class, and to make those on the periphery of the class accepted by their classmates. Beside this, when planning school bibliotherapy events and series of events, the following can be parts of the

aim: the introduction of different conflict-handling methods, the development of debating competences and self-knowledge, the communication of new values and aspects, the increase of social sensitiveness, and the broadening of the field of interests. Children are getting more and more isolated and miserable, so it is very important to clarify, that other people have similar problems. Apart from all these the meeting also provides the opportunity to edify their social relationships both quantitatively and qualitatively.

Bibliotherapy is a new, informal learning environment. It effects student's thinking and quality of life in an indirect way. The following are the needed for the school to be authorized for the service: teacher, librarian, school-psychologist, special education teacher, child and youth protection responsible, boarding school teacher, carrier orientation advisor, social worker and social educator – they are the ones who gained those competences and skills, pedagogical and psychological theoretical knowledge during their education that are needed for the holding of the sessions, and during their work they get the chance to make a contact with students and evoke their interest, the only thing needed is that they prepare students for the successful application of developing bibliotherapy as a method.

Bibliotherapy had to react to the society demands and technical changes, because one of the pillars of the *National Infocommunicational Strategy 2014-2020* are digital competences. As it stands out of the composition, digital competence becomes a strategic element, on which technological determination has a strong effect.

The phenomenon, second digital divide has appeared in the case of those layers that are coming off, which means that the users aren't able to take the advantage of higher level internet-offered opportunities, services because they are lacking appropriate competences. Increased attention has to be regarded to this, as it can obstruct the extending of the digital ecosystem.

In the Eszterházy Károly College's Practicing Primary, Secondary, and Elementary Art School we can witness the practical materialization of the Bring Your Own Device (BYOD) model, but during the academic year they experienced in the case of the class using the iPad, that the student's social relationships have decreased, they were only playing on the iPad in the breaks. Because of these reasons, of the joint application of developing bibliotherapy and iPads, e-bibliotherapy was born.

In the aspect of these, the aim of the planned sessions was to accomplish meetings that promote the interaction among students and tries to realize the development of students' self-evaluation, social relationships, their way of handling conflicts, creative problem-solving, reading comprehension, critical view and digital competence. Beside all these, it was also an aim of ours - among the K12 age-group's specific group - here we mean 6th grade (11-12 years old) students - to develop and apply such a good method in practice, which has a direct effect on the group's positive shaping, and on making interpersonal relations even tighter.

E-bibliotherapy sessions

In the case of e-bibliotherapy sessions the terms when choosing the device were that the iPad is practical, easily manageable, mobile; we thought that children's interest and attention would be woken up better with this device, they are also using this on lessons, so the device gets into a new context during the sessions, it will function as promotion of conversation.

In the beginning of the session, the mentor read out the chosen literary work, after this, the students with the help of the program Comics Head on their iPads, individually made a picture which mostly reflected the scene that came to their mind during the listening of the story. The picture could have been an interpretation of the art work, further thoughts could be made, edited by own ideas. Then the picture was sent to the mentor via e-mail with the help of an inbuilt application, and the further discussion was progressing with the involvement of the pictures; they were all displayed with the help of an interactive board.

When choosing the used literary works for the session, we took into consideration the students' age peculiarities, talking to their teachers, we summed up the problems they are facing, we also respected that we should choose literary works that are continuously keeping up their interest and not longer than one and a half pages due to their age peculiarities. Considering all these the applied stories were the following: a Korean folk story, which's title is *Kam's mirror*, a European folk story: The *old lady in the vinegar glass*; *The two forint coin* from Ferenc Móra, and from an unknown author: *Why is human's heart hidden*. We tried to build up each session around a theme; so the first session was built around the questions *Who am I?, What do I think about myself?, What is my opinion about others?*. During the second session we were aiming to find an answer for the questions: *What is happiness? What makes us happy? How can we make someone else happy? What is needed for happiness? What kind of dreams, desires do we have and are these realistic?*. On the third session our aim was to have a shared thinking about learning, knowledge and solving disagreements, so the upcoming questions were related to these. And on the occasion of the fourth, last session we talked about feelings, emotions, relationships and values that are important for ourselves. During the preparation for the meetings, we collected questions for each story that would continue the discussion if there is a possible stoppage. These questions were mostly related to the chosen topic, and also embraced questions like: *What was the mood of the story? What would have happened if X acted differently? How could have Y acted differently? Did you agree with K's behaviour? What would have you done in his case?*

Experiences of the e-bibliotherapy sessions

iPads on e-bibliotherapy sessions were first – and so far only – applied at Eszterházy Károly College's Practicing Primary, Secondary and Elementary Art School, where primary school 6th grade students (all together 11, 3 girls and 8 boys) took part on a 4 time e-bibliotherapy session. To detect changes, we used Coopersmith self-evaluating-, and Thomas-Kilman conflict handling tests, and we also used a self-produced scale measuring emotional attitude; of which's results and the pilot's experience you can read in the following. A recording was made during each meeting, however, we only analysed students' interactions with the Noldus Observer XT behaviour-analyzing software on the first and last meetings.

The participating students filled in our 9-level, emotional-attitude measuring scale before and after the meetings, this is how we wanted to detect the short-term effect of the sessions. They had to mark the actual intensity of the following feelings characterising themselves: tense, cheerful, tired, interesting, hopeful, lonely, satisfied, interested, suspicious, bored. The Thomas-Kilman and Coopersmith tests were only filled in before the

first, and after the last occasion, this is how we wanted to measure the long-term effect of the sessions.

Results of the Thomas-Kilman conflict-handling test

We cross-checked the results' of Thomas-Kilman conflict –handling test in the case of those 9 pupils (2 girls, 7 boys), who attended all of the meetings. Due to the short number of samples we couldn't point out a significant change, but we can tell as a result of the one-sample t-test that compared to the beginning of the sessions, the competing conflict-handling points (t'=1,537, p=0,163) and the avoiding conflict-handling points (t'=0,696, p=0,506) have decreased, the problem-solving conflict-handling points (t'=-0,359, p=0,729) and the compromise-seeking conflict-handling points have increased (t'=-2,800, p=0,23), and the adapting conflict-handling points have shown no change (t'=0,000, p=1,000). As a conclusion we can say, that the conflict-handling style of the group hasn't changed significantly, however, in accordance with the expected the problem-solving and compromise-seeking conflict-handling styles have risen.

Results of the Coopersmith self-evaluating test

In the case of the earlier mentioned 9 pupils, the Coopersmith self evaluating test hasn't shown a significant change; as a result of the T-test we can say that the difference between the two average values has increased in the case of the one-sample T-test's result, in the case of the sub-scale relative to „self" (t'=-0,054, p=0,959), and in the case of home-effects sub-scale (t'=-0,849, p=0,420); and it has decreased in the sub-scale relative to school (t'=0,286, p=0,782) and in the sub-scale of relationship with the same age-group, and the self-evaluation reflecting this (t'=0,516, p=0,620). Here, the expected result came out only partially, as we expected that as a result of the sessions, the sub-scale reflecting the „self" would increase, and this happened, but beside this, we also hoped, that the sub-scale of relationship with the same age-group, and the self-evaluation reflecting this would also increase.

Results of the video-analysing

With the help of Noldus Observer XT program, we coded the video records of the 1st and 4th meetings, according to the following categories: stand-sit, smile, anger, crosswise kept legs, hands laid in arms. We considered it important to record and compare these categories, because we thought that crosswise kept legs and hands laid in arms will decrease parallel with the progress of meetings; as in the traditional interpretation of body-language, we consider these as a manifestation of defensive and/or negative behaviour. Smiling was put on the list because of a similar consideration, as we presume that due to the meetings the participating pupils became more opened, and their attitude to conversation is more positive and this will come out in the number and duration of smiling. Because quite a few emotions can occur during developing bibliotherapy sessions – as we can affect such themes that upset the participants – we were prepared that anger will appear as well, but the manifestation of this will be less intensive from time to time. We regarded the detection of changing location important, because we thought that on the first meeting, when more problems can occur in connection with the program, e-mails; pupils would stand up more often and go help their classmates than on the following meetings. Later on, they only

stood up when they went to show something on the interactive board or they acted out how certain teachers treated them.

On the basis of the test on the coding's data, that the number of smiling of pupils compared to the first meeting has increased significantly (t'=-4,205, p=0,003). The student smiling the most (3) smiled 58 times on the first meeting, and this means in percents relative to the whole observation that the student smiled 21,90% during the meeting. On the last meeting, the same student smiled 73 times and this means 35,72 % relative to the duration of the whole observation. The student smiling the least on the first meeting (4) smiled 9 times, this was 2,57% of the observation's duration. The same student smiled 46 times on the last meeting, which means 10,8% relative to the duration of the whole observation. It can well be seen from the diagrams showing the distribution (diagram1., diagram2.) of pupils' smiling that students smiled more often on the 4th meeting than on the 1st one. While the moderation of attention could be experienced on the first occasion and this manifested in the number of smiling; on the last meeting the distribution of smiling became more even during the conversation.

1. diagram 1. meeting – the distribution and time of smiling
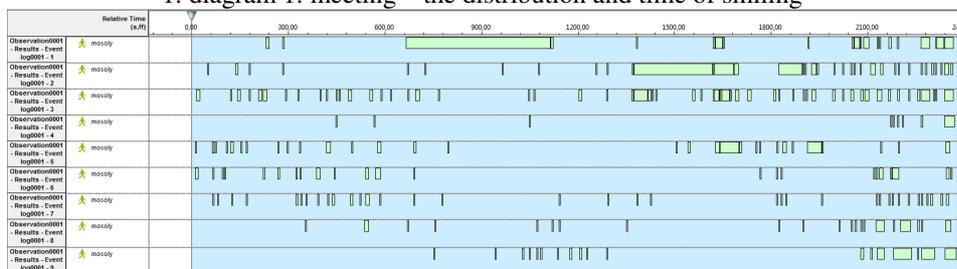
2. diagram 4. meeting – distribution and time of smiling
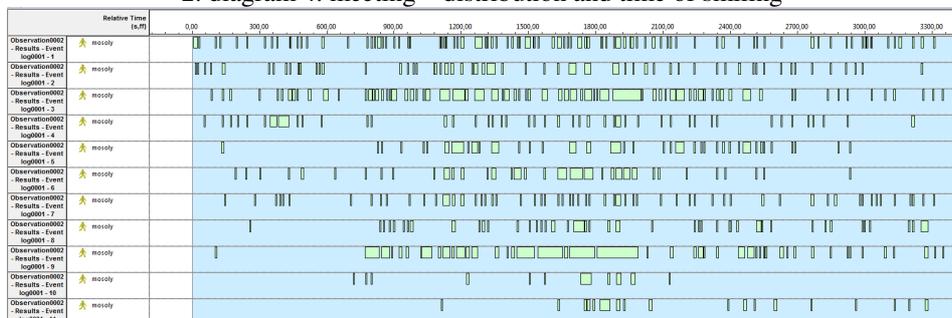
The manifestation of anger only occurred a few times during meetings, when they had to put away iPads before the beginning of conversations. They didn't bear it well that it couldn't be with them, but when they had it, they always started playing on it. This caused the anger and aggressiveness in the case of one boy on the last meeting; also on the first meeting one girl wasn't able to send her picture via email and she didn't accept the help of the others. In the case of the first meeting this manifested in the girl wanting to leave the room and she was also flapping and talking on a raised voice; while on the last meeting there wasn't any flapping, only a bit of mimic and raising in the voice.

The one-sample t-test on the data about students' crosswise kept legs during meetings, exported from Noldus didn't show a significant result, and its number in percent relative to the duration of the whole observation decreased (t'=1,434, p=0,19).

The self-produced scale's results

We can say after performing the Wilcoxon-test on the self-produced scales used on the 1st meeting in the case of tense (2,50; 3,75), cheerfulness (2,00; 3,00), feeling special (3,67; 4,25), hoping (2,83; 1,50), feeling lonely (1,50; 0,00), feeling satisfied (4,00; 2,00), interest (2,75; 3,88), feeling suspicious (0,00; 3,00), boredom (2,00; 0,00) the negative and positive rankings aren't evenly distributed, so we need to reject nil-hypothesis, by rejecting nil-hypothesis the relationship between dependent and independent alternates exists. In the case of feeling tired (3,50; 3,50) the rankings are evenly distributed, so we can't reject the nil-hypothesis, so there isn't a relationship between dependent and independent alternates. In the aspect of this, on the basis of the performed t-test, there wasn't a change in students' feeling tense (t'=0,00; p=0,00), but there cheerfulness (t'=-0,357, p=0,732) and interest (t'=-1,111, p=0,303) has increased although these changes aren't significant. Their feeling of loneliness (t'=1,323, p=0,227) and boredom (t'=2,094, p=0,133) has decreased. In contrary with the expected, their feeling of being special, satisfied, suspicious and hoping didn't change in the expected way.

After performing the Wilcoxon-test on the scales used on the 2nd meeting in the case of feeling tense (3,00; 0,00), cheerfulness (1,00; 3,50), feeling tired (2,33; 3,00), feeling special (3,00; 1,50) hoping (3,00; 2,00), feeling lonely (3,00; 1,50), feeling satisfied (4,50; 2,00), feeling suspicious (6,00; 0,00) the negative and positive rankings aren't evenly distributed, so we need to reject nil-hypothesis, by rejecting nil-hypothesis the relationship between dependent and independent alternates exists. In the case of interest (2,50; 2,50) and boredom (2,50; 2,50) positive and negative the rankings are evenly distributed, so we can't reject the nil-hypothesis, so there isn't a relationship between dependent and independent alternates. On the basis of these t-tests, students' feeling of tension (t'=1,647; p=0,134), feeling tired (t'=0,418; p=0,686), feeling of loneliness (t'=0,699; p=0,502), feeling suspicious (t'=1,908; p=0,089), and boredom (t'=0,418; p=0,686) decreased; while their cheerfulness (t'=-1,086; p=0,306) and feeling special (t'=-0,605; p=0,560) increased. Unlike the expected their hoping (t'=0,505; p=0,625) and feeling satisfied (t'=0,678; p=0,515) also decreased.

After performing the Wilcxon-test on the scales used on the 3rd meeting in the case of feeling tense (2,00; 4,00), cheerfulness (3,00; 3,75), feeling tired (2,50; 0,00), hoping (2,67; 4,33), loneliness (2,00; 0,00), feeling satisfied (2,00; 3,80), interest (2,83; 3,25), feeling suspicious (2,17; 4,25), the negative and positive rankings aren't evenly distributed, so we need to reject nil-hypothesis, by rejecting nil-hypothesis the relationship between dependent and independent alternates exists. In the case of boredom (2,00; 2,00) and feeling special (4,00; 4,00) positive and negative the rankings are evenly distributed, so we can't reject the nil-hypothesis, so there isn't a relationship between dependent and independent alternates. On the basis of these t-tests we can state that students' feeling of loneliness significantly decreased (t'=2,236; p=0,052), and the feeling of satisfaction significantly increased (t'=-2,091; p=0,066). Beside all these the feeling of tense (t'=0,200; p=0,846) and feeling of being tired (t'=0,408; p=0,693) decreased while cheerfulness (t'=-1,481; p=0,173), feeling special (t'=-0,829; p=0,428), hoping (t'=-1,107; p=0,297) and interest (t'=-0,557; p=0,591) increased. In contrary with the expected their feeling of suspicion (t'=-0,434;p=0,674) also increased.

After performing the Wilcxon-test on the scales used on the 4th meeting in the case of cheerfulness (4,25; 3,13), feeling special (3,50; 2,25), hoping (0,00; 1,50) loneliness (1,00; 0,00), feeling satisfied (2,75; 3,17), interest

(3,00; 1,00), feeling suspicious (0,00; 1,00) and boredom (2,50; 1,00), the negative and positive rankings aren't evenly distributed, so we need to reject nil-hypothesis, by rejecting nil-hypothesis the relationship between dependent and independent alternates exists. In the case of feeling of tense (2,00; 2,00) and feeling of being tired (3,00; 3,00) positive and negative the rankings are evenly distributed, so we can't reject the nil-hypothesis, so there isn't a relationship between dependent and independent alternates. On the basis of these t-tests we can state that students' feeling of loneliness (t'=1,437; p=0,181), feeling suspicious (t'=0,516; p=0,617) and boredom (t'=1,912; p=0,085) decreased, while cheerfulness (t=-0,633; p=0,541), feeling special (t'=-0,214; p=0,835), hoping (t'=-1,000; p=0,341), feeling satisfied (t'=-1,305; p=0,221) increased; differently from the expected, interest (t'=0,629; p=0,543) decreased.

If we assume that smiling is one of the manifestations of cheerfulness, then the observation supports this, made with the help of Noldus Observer XT on the cheerfulness sub-scale based on the self-confession of the 4th meeting.

Conclusion

Thanks to the experience gained through the sessions, we developed the method so it can be applied successfully, although, because of the short number of sessions we couldn't achieve a significant change. Our experiences gained through the sessions show that students are opened for conversations that seem informal, however, they often can't express themselves, and they get frustrated without the iPads in their hands. It often happened that parallel conversations emerged, they didn't listen to each other; so because of this (although literature maximizes the group's number in 12-15 members) int he future I recommend the forming of groups with 6-8 members, so that everyone can evolve their opinion during conversation.

As it can be seen in my study, a session with even 4 meetings brought positive results. How Thomas-Kilman's conflict-handling results prove, the students' problem-solving and compromise-seeking style rose, and during the meetings they smiled more and more, they expressed their opinion more freely, and the intensity of their aggression has decreased. Thanks to the sessions their digital competences developed, on the 4th meeting every participant could send the picture without help.

The results of scales based on self-confession need further thinking over, but they still brought part of the expected results. Students said that they enjoyed these sessions, they were looking forward to the upcoming one, they were happy that someone is interested in their opinion, problems, and listens to them. All in all we can say that the sessions reached their goal, we were able to accomplish a method that is even new in the international aspect; which later can be used successfully to achieve goals, have self-evaluation, arguing skills, communication skills, develop digital competences and introduce conflict-handling methods; so the pilot has accomplished its goal.