

The practice of philosophical dialogue for children with a language disorder

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Introduction

By browsing the studies on the benefits of philosophy for children (P4C), it becomes apparent that the practice of philosophical dialogue can have major implications on the development of children, whether in the cognitive, moral-social or affective spheres. As a school speech and language pathologist I support those in the education sector with the implementation of evidence-based practice, promoting the cognitive-language and communicative skills of all students. I also participate in adapting the environment to the needs of more vulnerable students. Working with students with developmental language disorder (DLD) and documenting the functional impacts of the disorder, I asked myself: should we offer the practice of philosophical dialogue to children experiencing language difficulties? The approach may seem risky as dialogue in a community of philosophical inquiry (CPI) is a demanding practice, which requires the mobilization of various cognitive, social and language skills. If for a large majority of children, these skills are gradually established thanks to regular practice and the help of the facilitator who questions and models, what are the prospects for children whose language development is atypical? Isn't the risk of causing them to experience failure increased? It may be thought that these children are not ready for this experience, or one can take the opposite position, and consider philosophical dialogue as an opportunity to develop these skills. In this case, it is appropriate to make this practice accessible to them. I invite you to deepen this reflection by presenting a regular philosophical dialogue practice for students with a language disorder.

1. An innovative project in school adaptation: The practice of philosophical, creative and collaborative dialogue for students with DLD

1.1. The origins of the project, its framework, and the target population

This project was funded by the Quebec Ministry of Education. It is part of a measure aimed at encouraging new approaches and practices promoting the academic success of students with disabilities^[1]; as well as supporting the diversification of special education service offerings, through the implementation of pilot projects. A philosopher by training, I designed this project following university courses in P4C and ten years of practice as a speech therapist, including seven in a school environment. It included eighteen students between 8 and 12 years old who practiced philosophical dialogue on a weekly basis. This article covers thirty-eight hours of practice. It was implemented in

AMPLI classes^[2] which have a reduced number of students whose language difficulties severely or moderately harm their learning and their social life. The project began in December 2021 and ended in June 2023. The team is currently continuing the practice independently.

1.2. Developmental language disorder

DLD is a neurodevelopmental pathology that affects approximately 7% of preschool and school-aged children. In 2017, its terminology^[3] and diagnostic criteria were the subject of a reevaluation by a group of experts who helped to bring to the forefront the functional impacts of the disorder, thus harmonizing it with the social model of disability, particularly with the Human Development Model - Disability Creation Process (HDM-DCP). The difficulties encountered by those with DLD are numerous and persistent. Oral expression and understanding can be affected, both in terms of form and content or use of language^[4]. This disorder encompasses a certain heterogeneity of impairments and functional impacts and does not exclude the presence of associated disorders. Having an evolving dimension, its impacts vary according to a person's age and experience.

1.3. The absence of precedent in the scientific literature

To my knowledge, the scientific literature does not report any experience of philosophical practice with students with DLD, except for a recent study which highlights the importance of developing critical thinking in adolescents with DLD^[5]. The offered practice consisted of asking students to take a position on the moral of a philosophical fable and to justify their choice using reasons. Although the results highlight interesting findings at the lexical and morphosyntactic level, there is neither mention of tools of thought^[6], nor of a collaborative dimension between students.

1.4. An interprofessional and multidisciplinary team

To optimize reflection on the choice of adaptations and facilitate the implementation of this practice in our environment, I proposed a collaboration with two special education teachers and two creative arts teachers, one from visual arts and the other from dramatic arts. To guarantee the quality of the facilitation of the dialogues, I called on two external partners, specialized in P4C^[7].

The integration of the aims and procedures of dialogue in CPI by the teachers was progressive, evolving from observation to taking charge of the facilitation. Whereas the adaptations were thought out as a team, the educational and clinical aims were formulated beforehand in the funding application. They highlight a range of potential benefits for children with DLD.

1.5. Educational and clinical aims

I started from three observations. First, teachers often feel insufficiently equipped to develop the critical thinking of students experiencing language difficulties, as the development of thinking is intrinsically linked to that of language. Secondly, dialogue is still practiced too little in typical and specialized classes^[8]. Third, the functional impacts of language impairment worsen with age and affect the quality of life of people with DLD, including their self-image and social participation^[9].

The practice of philosophical dialogue appeared to me as an opportunity to jointly develop language, communication and reflection skills, as well as to strengthen their connections, in a safe and semi-ecological context.

1.5.1. Developing thinking

According to Lipman and Sharp, multidimensional thinking is composed of critical, caring and creative thinking; the three interacting and nourishing each other.

Critical thinking is defined as rigor of judgment based on criteria. It is self-corrective and takes context into account^[10]. Like most children with disabilities, children with DLD are less often encouraged to develop critical thinking. The insufficiency of their semantic networks and the difficulties of abstraction and decentering they experience, represent major educational challenges. These children are also victims of self-censorship which often only increases with age. However, the practice of philosophical dialogue could play the role of a protective factor against certain forms of epistemic injustice which affect this vulnerable population.

Caring thinking, on the other hand, is conducive to collaboration and consists of taking care of each other and the ideas expressed^[11]. It also represents a challenge for young people with DLD, who present differences in social cognition and pragmatics. However, we have reason to believe that its development could improve the quality of social interactions and the relationship to thought^[12].

Creative thinking promotes the search for meaning and the generation of hypotheses. Anchored in experience, it allows individuals to make connections and imagine different contexts or implications^[13]. Creative thinking could be valuable for motivating students with DLD. It could be a relative strength for this population. Imagination and creativity are called upon in our project, particularly through the arts.

1.5.2. Promoting motivation and academic engagement

Like most students who encounter academic difficulties, one observes among students who have DLD, a lack of academic engagement, linked to a feeling of low competence and a lack of control over success^[14]. Dialogue in CPI has the advantage of putting the interests of students first. Students formulate and choose the questions themselves. Although absolute relativism is prohibited, the fear of the wrong answer is reduced thanks to the open posture adopted by the person facilitating. In addition, participants learn to dialogue with each other, gradually forming a community that takes charge of the research. For these reasons, one can expect that this practice will allow students with DLD to become more engaged through meaningful and structuring exchanges.

1.5.3. Expanding and deepening vocabulary

Students with DLD have a lexicon of reduced breadth and depth^[15]. They have difficulty learning new words^[16]. Dialogue in CPI could facilitate the enrichment, deepening and organization of the lexicon, to the extent that it brings out a vocabulary with a high degree of abstraction and allows the practice

of skills that contribute to the organization of the semantic network^[17]. This conceptual work makes it possible to complexify and refine mental representations. In addition, dialogue in CPI could help enrich the vocabulary of mental state verbs^[18]; this vocabulary allows one to develop cognition and metacognition.

1.5.4. Enriching morphosyntax

Understanding and producing complex sentences could be facilitated during philosophical dialogues. Giving reasons is a skill that can be quickly targeted in CPI, and conjunctions such as «because» and «since» can be modeled. If one is making comparisons, the conjunctions «while» and «whereas» will be used. These structures, which are difficult for students with DLD to produce, could be of great help to them in being able to explain their thoughts as clearly as possible^[19].

In addition, dialogue in CPI offers students the opportunity to be exposed to a variety of questions and to produce a certain number of them as well. During the dialogue, the facilitator questions the participants to help them progress in their research. Children learn to formulate philosophical questions. The aim of the dialogue is to offer a multiplicity of answers to the chosen question in order to explore its limits, which inevitably deepens the understanding of the question type^[20]. The negative sentence form can also be exercised in a meaningful dialogical context, where each agreement or disagreement is justified.

1.5.5. Supporting emotional development and increasing the quality of interactions

It is estimated that more than half of students between the ages of 5 and 19 who have DLD also have an emotional or behavioral disorder^[21]. Dialogue in CPI could help improve the management of emotions and the quality of interactions between peers. One study found better management of emotions and self-regulation of behavior in typical children, due to the practice of philosophical dialogue^[22]. Other studies indicate that the practice of dialogue in CPI can improve living together, help prevent violence and work to promote peace^[23]. Children with DLD may also profit from these benefits.

1.5.6. Exercising pragmatic skills^[24]

Students with DLD often encounter pragmatic difficulties such as initiating and maintaining conversation, respecting turn-taking, and recognizing and repairing communication breakdowns^[25]. These aspects, often considered difficult to work on in speech language pathology^[26], could be addressed in the safe and semi-ecological dialogic context of CPI. Respecting the rules of speaking and the supported mobilization of certain key skills^[27] could lead students to develop strategies that help reduce communication breakdowns. The mainly reparative function of reformulation, already demonstrated in CRP with typical adolescents^[28], seems promising.

1.5.7. Promoting social cognition

Some students with DLD have weaknesses in theory of mind (ToM)^[29]. This is a cognitive ability that allows individuals to understand that others have their own thoughts and helps to interpret them. These difficulties increase in adulthood, having an ever greater impact on social life^[30]. As P4C promotes caring thinking, it is reasonable to hypothesize that being exposed to a diversity of points of view, considering them respectfully, and reconsidering one's own thoughts in light of those of others, can help students with DLD develop intersubjectivity and improve their abilities in ToM.

2. Establishing a caregiver posture to support and adapt

2.1. Taking advantage of knowledge about the learner and communicator profile^[31]

2.1.1. Avoiding a double pitfall and targeting the zone of proximal development

The accessibility of the practice of dialogue in CPI to children with DLD is a major issue. The two main impediments to participation are a lack of belief in the students' abilities to learn, and an inadequacy of adaptations to meet the learner's profile. To place students in learning situations that allow them to learn and succeed, it is appropriate to examine what Lev Vygotsky called the zone of proximal development (ZPD)^[32]. Several ZPDs can be considered, namely those of language, communication and reflective skills, both at the individual level and at the level of the community itself.

2.1.2. The three characteristics of the learner with DLD

It is essential to take into account the profile of the learners. Beyond the heterogeneity of their impairments and the impacts of the disorder, three major characteristics are evident^[33]: a deficit of working memory, particularly of the phonological loop, a deficit of analogy processing and a deficit of the algorithm of development^[34].

The deficit of working memory manifests itself in difficulty retaining verbal information while processing it^[35]. The deficit of analogy processing refers to difficulties in identifying similar structures, and in observing and comparing them to identify common elements, whether they are phonological, morphological or syntactic in nature^[36]. The deficit of the algorithm of development results in difficulties acquiring language skills in the same manner as typically developing students.

2.1.3. Social skills colored by the disorder and its impacts

The characteristics of the communicator with a DLD must also be considered. Difficulties in ToM, as well as some relating to pragmatics must be taken into account. Added to these particularities is an experiential background made up of numerous communication breakdowns, sometimes experienced as communication failures. These experiences can interfere with the development of social skills.

2.2. Combining explicit teaching and infusion

The combination of explicit teaching and infusion seems to be the most efficient approach to allow students with DLD to mobilize the thinking skills targeted in CPI. Explicit teaching optimizes students' chances of success because it helps them identify relevant traits and perceive similarities. Research also indicates that explicit instruction is the most effective method for developing critical thinking skills^[37]. As part of CPI dialogues, skills can be presented one at a time through a user-friendly definition, an associated illustration, and a modeling of its use by the facilitator, followed by structured practice for students. The semi-ecological context of a dialogue supported by the facilitator will then allow the progressive integration of the skill. The infusion strategy, which consists of naming skills when students use them, is also essential so that they can identify them during the dialogue.

2.3. The main axes of adaptations

All of the adaptations explored during the project will not be presented here. However, I would like to draw attention to the necessity to take particular care with the quality of social interactions, student comprehension, as well as the fluidity of exchanges.

2.3.1. Facilitating the emergence of social skills

Facilitating the development of caring thinking in students seems to be a way of exercising their ToM and opening up new perspectives in terms of pragmatic skills. It is essential to model and encourage caring listening, that is to say consideration and respect for different points of view, as well as mutual assistance and engagement in a self-corrective approach. Although we have renounced presenting to students the social skills linked to the development of caring thinking in an explicit manner, for fear of falling into moralizing discourse, we are in the process of reconsidering this objective using new strategies, notably the sensitization to social skills through observation.

2.3.2. Helping understanding and abstraction

Although the quality of listening is often mentioned in P4C, comprehension is rarely talked about. However, for students who encounter language difficulties, it is by no means a given. It is therefore important to adjust one's speech and pace during exchanges, as well as to offer visual supports. The pace of the dialogue must be slowed down by leaving silences, to allow children to process verbal information and to give them time to respond to it. Due to weaknesses in the phonological loop, a delay in the processing of verbal information is generally observed. Training for facilitators to produce modulated speech is also desirable. Modulated speech consists of increasing articulation, slowing down one's speech, placing emphasis on important words and marking prosody to facilitate access to meaning. Visual supports can also be provided to avoid cognitive overload associated with a working memory deficit. In our workshops, the illustration of each targeted thinking and social skill was thought out as a team and produced by the visual arts teacher, which greatly facilitated explicit teaching as well as infusion through identification. The metacognitive moments were facilitated by these visual cues, aiding the identification of skills used during dialogues.

Although all skills are essential in CPI, certain skills could be favored to facilitate comprehension and exercise pragmatic skills. For some students, starting from the another's idea is not easy. Placing an emphasis on reformulation is beneficial so that students have access to repetition. The person facilitating can model reformulations. This practice allows the facilitator to ensure their own understanding, and to permit the inclusion of students who encounter more difficulties at the receptive level. The frequency of reformulation should be experimented with as needed. Gradually, the modeling can be attenuated, and the reformulation entrusted to the children.

Defining and having students define is also essential because the definition helps regulate understanding, by informing students of the meaning of certain unmastered words. It also facilitates the actual work of conceptualization. Distinction, comparison, categorization and classification exercises can be offered in parallel to help abstraction. It is best to start with images because students with DLD have fewer difficulties when the similarities are visual^[38].

2.3.3. Supporting expression and the maintenance of exchanges

Another series of adaptations aims to support expression through high- or low-level scaffolding, depending on needs, while taking care to interfere as little as possible with the spontaneity of the exchanges. I would also mention that the project has the singularity of exploring varied modes of expression and developing creative thinking. Knowing that students with DLD have communication intentions comparable to those of children their age without language difficulties, but that they use more gestural communication^[39], we also explore non-verbal and paraverbal communication as supports for verbal expression. The visual arts and dramatic arts are called upon for this purpose, most particularly the art of mime.

Reformulation skills with a request for confirmation, and spontaneous questioning are very rarely used by children with DLD. So that the exchanges can be gradually delegated to the children, scaffolding work should also be carried out at the level of pragmatic skills, mainly those of checking understanding and asking relevant questions.

3. Observing the first benefits of this exploratory project

3.1. Constant progression in the mobilization of skills

To estimate the progress of students^[39], I refer to the typology of exchanges developed by Marie-France Daniel^[40]. A first group of ten students between 10 and 12 years old participated in thirty-eight hours of philosophical practice, divided into three series of dialogues. A second group brought together eight students aged 8 to 10, four of whom participated for thirty-eight hours, and four of whom participated for twenty-eight hours^[41].

During the first series of dialogues, the skills of making hypotheses, starting from the idea of the other and giving reasons, examples and counter-examples were targeted. The team also took care to establish a climate of trust and goodwill conducive to collaboration. As the participation of several students was hampered by comprehension difficulties, we reinforced listening and understanding

during the dialogues. At the end of the first series of dialogues, the exchanges between the participants were dialogic in nature^[42].

During the second series of dialogues, we aimed to maintain the skills already in place and added distinction, comparison, as well as imagining consequences. To the extent that the perception of similarities posed difficulties for these students on the phonological and morphosyntactic levels, we took into account the fact that the same could be the case at the semantic level. Thus, the first searches for similarities focused on images, before being carried out on words or stories. Decentering was worked on during the production of philosophical questions. At the end of the second series of dialogues, the exchanges were of a pre-critical nature^[43].

During the third series of dialogues, the students continued to deepen concepts, search for criteria and evaluate them, using the *philocreation* approach^[44]. For most, it was easy to change their minds by considering other people's points of view. The discussions were more critical in nature, with the students relying on criteria evaluated by the community^[45]. By distributing the speaking amongst themselves, they gained autonomy and developed a value of inclusion.

3.2. A possible generalization of certain skills

Teachers reported having observed the mobilization of certain cognitive and social skills in other learning contexts. Although it is difficult to determine whether the regular practice of P4C is really at the origin of these manifestations, it is important to mention them. A greater ability to spontaneously give reasons in mathematics and to justify the choice of strategies, was observed by one of the teachers. In French and the creative arts, the competency of appreciation, considered particularly difficult for these students, was more easily mobilized. An improvement in the quality of interactions between students was also observed during arts classes.

3.3. An experiential and metacognitive gain

After thirty-eight hours of practice, we asked the community the following question: *Is it important to do philosophy?* The students defined philosophical practice and highlighted different benefits. Among the benefits cited were the possibility of learning new words, and an increased ability to communicate, in particular by better managing their emotions such as anger, or by being less shy. A student who was relatively quiet and not very proactive in class said she felt free during philosophical dialogues. Succeeding in understanding others better, even if one does not agree with them, was also named, which demonstrates a desire to be open to the perspectives of others and to the development of intersubjectivity. This reflective return on practice informs us about the nature of students' needs. The experience of developing thought in dialogue is from the outset an intersubjective experience, which offers new communicative possibilities. This experiential aspect is crucial because philosophical dialogue, to the extent that it calls for the establishment of new know-how and interpersonal skills, seems to act on mental representations.

4. The potential impacts of the practice on the relationship to knowledge, to oneself and to others

4.1. Experience cognitive and communicational success

Children with a language disorder have less developed self-esteem^[46] and demonstrate reduced social participation^[47]. However, the practice of philosophical dialogue among typical children can contribute to better self-esteem^[48], as well as better social relationships^[49]. Indeed, by dialoguing, children become aware of the fact that they are capable of improving the quality of their judgment. They will thus experience "cognitive success"^[50]. As a specialist in language and communication, I also perceive philosophical dialogue as an opportunity to experience more "communication success". Indeed, for all children and even more so for children who encounter language difficulties the experience of being recognized in the role of legitimate thinker and interlocutor can greatly improve their self-image, restore confidence in others and in communication itself.

4.2. Improving the quality of social interactions through the deployment of caring thinking

A survey targeting high school students who practice philosophical dialogue on a regular basis reports that 94% of them recognize this practice as beneficial for their social relationships^[51]. They identified increased open-mindedness, improved listening skills, increased respect, the ability to question and even the desire to better understand others as some of the benefits. If these attitudes, which are the manifestation of caring thinking, are enriched by regular practice by typical adolescents, we can imagine that this could also promote the social cognition of students with DLD; enriching communication experiences and in turn allowing new risk-taking and better social participation. Thus, philosophical dialogue could generate what I would call a "virtuous circle of communication", a joint deployment of cognitive and socio-affective, or even pragmatic aspects, reducing communication breakdowns in a context increasingly approaching an ecological dialogue.

4.3. Overcoming the dualism of dependence and autonomy

As with all populations with disabilities, different education professionals tend to anticipate the needs of children with a DLD too much. Although the intentions are good, this places people in a bond of dependence. We must therefore also think of support as support for autonomy. As Pascale Dubois notes, self-determination should be the goal in the backdrop of speech language pathology follow-ups with people who have DLD^[52]. Self-determination is based on the needs for competence, autonomy and affiliation.

If the feeling of competence can be promoted by the practice of philosophical dialogue, through cognitive and communication successes, autonomy can also be reinforced. In P4C, it is important to consider children's perspectives, provide opportunities and choices, use non-controlling language and nurture intrinsic motivation. The need for affiliation could be realized within the community of inquiry, with each participant experiencing interdependence by being sensitive to each other's

vulnerability. Concern for the common good helps to open up new possibilities for the conditions of living together, which could take the form of true democratic participation.

Conclusion

During this exploratory project, constant progress in the mobilization of cognitive and social skills was observed among students in the 2nd and 3rd cycles of primary school, despite their DLD. Dialogical, then critical skills were established through regular practice adapted to the students' profile as learners and communicators. It would be beneficial if these data could be the subject of further examination. There are many educational and clinical interests to explore, including opportunities to develop language, socio-emotional and pragmatic skills. This project, although it was implemented in specialized classes, can fuel reflection on the facilitation of philosophical dialogues within regular classes, with students presenting a language disorder or language difficulties. Interprofessional collaboration or a double expertise seems essential to maximize the quality of adaptations and guarantee effective implementation of the practice in a milieu. Indeed, the involvement and collaboration of education professionals with varied expertise has made it possible to better identify the specific challenges linked to DLD and to perpetuate the practice. I hope that this exploratory project can inspire the educational community to offer the practice of philosophical dialogue to all children.

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Notes

1. EHDA : Élèves en situation de Handicap, en Difficultés d'Apprentissage et/ou d'Adaptation (Students with disabilities and difficulties in adaptation.) ↩

2. Pouliot, J. (2018) The AMPLI model at the CSSDM : Apprentissages Maximisés par les Pratiques Langagières Intercatives (Learning Maximized by Interactive Language Practices) ↩
3. In the past, many appellations concerning the disorder were used in the Francophonie, such « dysphasie » or « trouble primaire de langage ». ↩
4. Form (phonology and morphosyntax); content (vocabulary and semantics); usage (discourse and pragmatics) ↩
5. Nippold, M. A., & al. 2022 ↩
6. Except that of giving reasons ↩
7. Caroline Boucher et Diane Bérubér (special education teachers); Muriel Porret (visual arts teacher) et Jennifer Hébert (dramatic arts teacher); the organisations BRILA et SEVE Canada ↩
8. The teachers speak 70 to 80% of the time in class and only 5 to 10% of the discourse favors a dialogue with the students (Hattie, J. 2017 b.) ↩
9. Sylvestre, A., Brisson, J., Lepage, C., Nadeau, L., & Deaudelin, I. (2016); Dubois, P. et al., 2020; Curtis et al. 2019 ↩
10. Lipman, M. 2003, p.212 ↩
11. Sharp, N.M 2004b, p. 212 through Hawken, J. 2021; Lipman, M. 2003, p.262 ↩
12. See 1.5.6 et 1.5.7, as well as the 4th part of this article ↩
13. Lipman, M.1991, p.193 ↩
14. Barth, B.-M., 2001,2006; Bandura, A. 1997 ↩
15. McGregor, K. et al.2013 ↩
16. Nash M.C, 2001 ↩
17. Compare, distinguish, classify, define, etc. ↩
18. Nippold mentions equally this aspect in her study of 2022 ↩
19. The production of complex sentences is highlighted in the study of Nippold 20 What is? Should we? How? Why? etc. ↩
20. What is? Should we? How? Why? etc. ↩
21. Conti-Ramsden, G et al. 2013, 2019; Curtis, P. R et al. 2019; Yew, S. G. K., & O’Kearney, R. 2013 ↩

22. Cassidy, C. et al. 2018 ↩
23. Gagnon, M. 2013; Fletcher, N., 2019; Herriger, A. 2004 ↩
24. Pragmatics generally concerns the rules of exchanges. It is interested in the way language is used rather than the way language is structured. ↩
25. Fujiki, M. & Brinton, B. 2014 ↩
26. Dionne, M. et al. (2021) ↩
27. Propose hypotheses, start from the idea of others, reformulate, question ↩
28. Bouchard, É et al., 2015 Développement des compétences à l'oral par le recours à la CRP chez les ados ↩
29. Andrès-Roqueta, C. et al., 2013, 2016 ↩
30. Clegg, J. et al., 2005 ↩
31. The AMPLI filter (Pouliot, J.) is taken as a guide in 2.1.1 and 2.1.2 ↩
32. The ZPD is located between the zone of autonomy and the zone of rupture. It is defined as the area in which students are able to carry out a task with support ↩
33. Three characteristics highlighted by studies and taken up by Pouliot, J. (AMPLI filter) ↩
34. Concept highlighted by Pouliot, J. from the work of Norbury; Tomblin; Rice ↩
35. Archibald, L. M. D., & Gathercole, S. E., 2006; Gathercole, S. E., & Baddeley, A. D. 1990 ↩
36. Ullman, M. T., & Pierpont, E. I. 2005; Leroy, S. et al. 2012, 2014; Quémart, P., & Maillart, C. 2016 ↩
37. Abrami P.C. et al., 2008 ↩
38. Leroy, S. et al. 2014 ↩
39. These observations are based on my personal notes, recordings and discussions with the facilitators during the project. ↩
40. Typology of Marie-France Daniel (2007), included in the book of Gagnon, M. and Mailhot-Paquette, E.: « Pratiquer la philosophie au primaire ». ↩
41. To facilitate the analysis, I chose to take into account the progress of the group which participated in the greatest number of sessions. ↩

42. «Listen to the other; demonstrate a construction of points of view; manage to explain and justify his point of view». (Daniel, M. F. 2007 typology). ↩
43. «Demonstrates increasingly active listening; shows interest in abstract concepts; demonstrates a construction of points of view; manifests doubts and questions; respectfully expresses criticism or opposition to the points of view of others; manages to justify his point of view. » (typology of Marie-France Daniel, 2007) ↩
44. <https://ipcj.umontreal.ca/english/about/pedagogical-approaches/philocreation/> ↩
45. Note that although we are not considering here the progression of the younger group, they also seem to have reached a level of critical thinking. ↩
46. Wadman, R. 2008 ↩
47. Bergeron, L. et al., 2019; Sylvestre, A. et al., 2016 ↩
48. Sasseville, M. 1994 ↩
49. Gagnon, M. et al., 2013 ↩
50. Hawken, J. 2019 ↩
51. Gagnon, M. et al., 2013 ↩
52. To be self-determined is to act as a causal agent in one's own life ↩