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Pascal Dupont
Université de Toulouse Jean Jaurès Laboratoire

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Assessing Adolescent Reading Comprehension in a French Middle School:
Performance and Beliefs about Knowledge

Dupont Pascal,
Université Toulouse 2, Jean Jaurès, France

Abstract: In France, the growing percentage of students with reading problems calls for innovative teaching, particularly for students with serious learning difficulties. The present study was conducted on two classes with comparable reading levels: one standard sixth-grade class and one eighth-grade SEGPA class (those with learning difficulties). This study examined the effects of introducing a new teaching practice, didactique workstations, into the SEGPA class. The purpose of these workstations was to make the teaching content clearer and to promote formative assessment practices in order to improve adolescents’ reading comprehension and their relationship to knowledge. The results showed that introducing this innovative teaching practice had an effect on the class group: the grade differential was reduced in a way that benefitted lower-level students. In addition to classroom effects, the workstations also changed students’ relationship to knowledge. Thus, learning workstations offer great potential in working towards greater equity and inclusion.

Keywords: Literacy—Comprehension—Assessment—Middle School—France

Introduction

In many countries, schools tend to reproduce socioeconomic advantages instead of promoting a more equitable distribution of learning opportunities and learning outcomes. France is no exception: it ranks 27th out of 34 OECD countries in educational equity. According to national and international indicators, its education system is very unequal depending on students’ socio-economic background, gender, or the neighborhood in which the school is located. Too many vulnerable students fall behind, despite the French educational system’s resources and the government’s desire to address the problem, as seen in the recent law for reforming the French school system, to create a “school system that is fair to all and has high standards for all” (French Ministry of Education, 2013). Ensuring that all students succeed is one of the major concerns of today’s education systems. Yet how can school systems become fairer and more inclusive?

Developing inclusive education requires changes in three areas (UNESCO, 2009):
external to the school in terms of policy and legislation, culturally as part of a change in attitudes in society, and finally internal to the education system in terms of teaching and learning practices, of which assessment practices play a key role. Evaluating students is a practice that is as common for a teacher as designing teaching-learning situations. However, assessment is not always seen as being central to the process of teaching and learning (OECD, 2008). Although it is an almost daily ritual in the classroom, assessment has been largely neglected in French didactics research (Million-Fauré, 2013).

Moreover, developing literacy skills is a crucial factor in educational inclusion (Hébert & Lafontaine, 2010). Therefore, this present article focuses on the introduction of a new practice in teaching literacy, that of setting up didactique workstations\(^1\) (Grandaty, 2013, Dupont & Grandaty, 2015). More specifically, a reading comprehension teaching sequence was studied to evaluate the station’s effects on middle-school students’ performance and their relationship to knowledge, particularly for students exhibiting reading difficulties. At the same time, this study examined the effects of the stations on teachers’ assessment practices.

One of the characteristics of content to be learned in literacy is that some of it is easier to teach, such as grammar or writing, while others are more complicated for teachers to present and more difficult for students to learn. This is particularly the case for oral and reading comprehension, as shown in research on students’ awareness of school subject disciplines at the end of elementary school (Hassan, 2013). The main purpose of the learning stations developed in this study is to help students better learn content that is often difficult to identify, especially for those with learning difficulties, in order to improve their attitude toward knowledge. Charlot (1999) has shown that students’ relationships with knowledge can either foster or hinder learning. Thus, these attitudes about knowledge likely affect students’ susceptibility to having learning difficulties.

Rethinking both assessment and innovative teaching and learning practices should help us better determine the needs of students with learning difficulties and to adapt teaching practices. This would enable teachers to respond appropriately to their particular needs and consequently foster more inclusive education and all students’ success. The present study focuses on French students\(^2\) with literacy problems in their mother tongue. However, to facilitate its understanding for English-speaking readers, all examples and data are provided in English.

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\(^1\) These workstations were designed based on French didactique and ergonomics—not to be confused with ITC computer stations or separate physical stations in the classroom. The term ‘workstation’ refers more to the principles involved in their creation, of defining an ensemble of tools and parameters with clearly stated learning tasks and creative products to be made and evaluated by the students, to foster greater appropriation of the learning content. They will hereafter be referred to as learning stations.

\(^2\) Some of them come from immigrant background but in France, allophone newly arrived students [Élèves allophone nouvellement arrivés : EANA] are supported by other host structure.
Theoretical Framework

Developing an equitable and a more inclusive school system means meeting the needs of all students and recognizing the value of each student in order to improve their success throughout their education.

Usefulness of the Concept of Literacy in “Didactique”

While the term littératie [literacy] is becoming increasingly used in French-speaking countries, in public debate the term illétrisme [illiteracy] is still preferred as it refers to the notion of a deficit in learners’ skills. The term illiteracy identifies its cause as the absence of or little education (Fernandez, 2005). In opposition to this term emphasizing a person’s shortcomings, failures, and difficulties when trying to master reading and writing, the concept of literacy is a positive conception that identifies needs and barriers in specific contexts (Dupont, 2014a). With the term ‘literacy’, moreover, ignorance does not exist because literacy needs vary according to the sociocultural context in which an individual lives (Street, 2009) and these needs change throughout one’s life.

In his work synthesizing Jack Goody’s research (1968, 1977, 1986, 2007), Jean-Marie Privat (2007, p.10), defines literacy as “the set of representations and praxis related to writing, from the material conditions for the act of writing (materials and tools) to the intellectual objects of its production and the cultural and cognitive skills involved in its reception [translated here].” Introducing the concept of literacy into didactics presumes considering all three dimensions: social, linguistic and cognitive (Dupont & Grandaty, 2012). Moreover, this view of literacy leads teachers to rethink their view of students, in that a student is considered an individual with his/her own identity, is part of a continuous process of development of his/her literacy skills, and has his/her own relationship with the world:

_The social and ecological view of literacy has shifted to a relational approach from a purely psychological or cognitive model. The essence of this approach is that literacy competence and needs cannot be understood in terms of absolute levels of skill, but are relational concepts, defined by the social and communicative practices with which individuals engage in the various domains of their life world. It sees literacy as historically and socially situated….The focus shifts from literacy as deficit or lack, something people haven’t got, to the many different ways that people engage with literacy, recognizing difference and diversity and challenging how these differences are valued within our society (Hamilton, 2002)._  

Schools therefore must organize themselves in such a way as to include each person’s socio-cultural experience and take into account changing social practices (Rispail, 2011). “This open cultural-historical view leads us to consider teaching and learning as a set of practices situated in specific contexts that promote individual and group development [translated here].” (Dupont, 2014, b). Therefore, taking into account the three constituent dimensions of literacy,
and keeping adolescents’ interests and needs foremost in mind when designing literacy instruction, would help foster students’ development of literacy skills at the middle and high school level (Alvermann, 2002).

The present study, therefore, focused on the social dimension of literacy. More specifically, it examined students’ relationship to knowledge, in particular those struggling at school in the *Section d’Enseignement Général et Professionnel Adapté* [Adapted General and Vocational Education] (SEGPA). Students in this class are mainly from low socio-economic backgrounds and have serious and persistent learning difficulties.

**General Principles of Literacy Teaching and Curricula in France**

After lengthy debates among scholars and teachers on the general principles of literacy teaching that lasted until the early 2000s, it is widely agreed today in France that reading activities are based on two complementary dimensions such as decoding and comprehension skills. This is the purpose of reading. In the diversity of reading situations (guided reading, shared reading, independent reading and reading aloud), students are led to identify the goals they pursue and the processes that should be implemented. These processes are practiced and implemented on many occasions, but always explicitly thanks to teacher support.

On the other hand, studies have focused on how teachers implement these principles. A recent nationwide research (2013-2015) involving 2500 pupils of 135 classes in 14 regions was aim at analyzing the influence of “teaching reading and writing practices on the quality of early learning”. It made it possible to draw a number of conclusions regarding the acquisition of literacy proficiencies and more specifically reading comprehension. The findings encompassed a set of variables defined as follows:

- The time allotted for comprehension is much less important than the time devoted to the study of the code or to writing. Oral tasks (like making implicit information contained in the text explicit by generating inferences, debating or negotiating an interpretation) that focus on the construction of meaning represent an average of 30 minutes per week. Some of these oral tasks had never been observed in nearly half of the classes.
- Students spend a lot of time dealing with reading-comprehension tasks individually and

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often outside the presence of the teacher. On the other hand, the moments devoted to explain / rephrase the meaning, evoke a mental representation or rephrasing a narrative, only represent an average of 19 minutes per week.

- The time devoted to the study of the language plays a crucial part in the process: initially weak students, who consistently study vocabulary, progress more in the oral comprehension of texts. Moreover, the study of morphology has a positive impact on the results in autonomous comprehension.

- It has also been observed that the number of books read in class has a positive influence on the oral comprehension of texts. It appears that, the more acculturated the classes, the more skilled initially weak and intermediate students in all areas of literacy become. These are the students who benefit the most from practices aimed at acculturation in writing.

- Finally, the study emphasizes the impact of inter-class disparity. Indeed the time allotted to learn reading comprehension strategies can vary dramatically, on a scale of 1 to 9.

In middle-school curricula, the process of acquiring literacy (which encompasses oral, writing, reading skills, as well as morpho-syntax), is structured around four pillars. The expected skills concern reading and understanding a diversity of texts, images and hybrid documents, be they digital or in paper form. These skills also concern the reading, comprehension and interpretation of literary texts by using simple tools of analysis to, and knowing how to situate literary texts in their historical and cultural context.

The assessment of such skills is carried out through activities like answering an open-ended analysis of the texts, explaining a text based on analytic tools, reporting on a longer text by highlighting its key features, writing invented texts that reflect the students personal interpretation and acquisition of the texts or keeping a reading diary. Our approach to assessing students is based on the results of these studies: both to measure their reading comprehension skill and to appreciate their relationship to knowledge.

**Adolescents with Serious Learning Difficulties**

5 “Se chercher, se construire »; « Vivre en société, participer à la société » ; « Regarder le monde, inventer des mondes » ; « Agir sur le monde ».

6 The accompanying documents for the assessment of the achievements of the common foundation of knowledge, skills and culture at the Middle-School can be found on the website of the Ministère de l’Éducation Nationale [Ministry of National Education].

7 Critical, articles, reports, presentations, open letters, etc.
Settling on a precise definition of ‘serious learning difficulties’ is not an easy task as Tardif and Presseau show (2000) in their study of this phenomenon in North America. They found that the studies and models used in education most often refer to institutional criteria. In France, the Inspection Générale de l’Éducation Nationale [General Inspectorate of Education] (IGEN, 2013) found that there is no agreed-upon international description or classification of ‘serious learning difficulties.’ Nonetheless, this report found that the phrase describes a very real situation in France: students who, despite preventive actions, assistance and support, were unable to acquire the skills and knowledge expected of them by the end of elementary school. Although the contexts and factors that explain these difficulties vary considerably from one student to another, problems in speaking, listening, reading, and writing were the most important component of the situations observed.

These students, the majority of whom lag one to two years behind the others after completing their primary school curriculum, are then sent into a SEGPA class after a review of their case by a commission and their parents’ agreement. These SEGPA sections are hosted by secondary schools. They are on the border between special need education, elementary and secondary school and vocational training. Students attend classes that are adapted to them, so as to enable them to acquire common core knowledge and skills, reach their educational goals, and prepare them for admission into some kind of degree-granting program.

Their academic difficulties usually originate from a specific deficit in reading comprehension skills. Oakhill and Cain (2006, 2007) refer to these students as "poor comprehenders", whose abilities to understand can also affect their oral comprehension (Megherbi & Ehrlich, 2005). These barriers to understanding can be grouped into four broad categories: first, the obstacles related to language processing; secondly, the obstacles to the process of reading or understanding a text; next, the integration of successive information to construct a mental model and, finally, the reasoning, and the implementation of strategies to produce inferences, control and regulate one's understanding.

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9 The French school system offers a diploma at the end of middle school, usually for students who then transfer into vocational programs.

10 Syntax, lexicon, morphology, anaphora processing.

11 Characteristics and structures of narrative, explanatory, injunctive texts, cultural knowledge.
However, according to a study conducted by the French Department of Education (DEPP, 2007) among 384 elementary school teachers and 1,038 secondary school teachers, two-thirds of them believe that severe learning difficulties stem from the students social environment. They identify the second most important cause to the organization of the school system (16.7% of elementary school teachers, 26.4% of middle school teachers), and only a minority believe the problem comes from the student himself (8% of elementary school teachers, 11.7% of middle school teachers). The teachers who were most likely to consider the environment as the source of serious difficulties at school were fifth-grade teachers (74.3%), secondary school teachers of Physical Education (73.4%) and History and Geography (66.6%). Language teachers tended to cite the organization of the school system (33.1%) as the main cause of those learning difficulties.

Overall, teachers identified the families’ lack of interest in schooling as the primary environmental factor. Among the causes related to the organization of the school system, they pointed to the lack of proper care for students with learning difficulties as the most harmful factor. Conversely, the lack of foundational knowledge was seen as the most decisive factor by those who considered individual students as the source of their own learning difficulties. According to middle school teacher, addressing serious learning difficulties should be done by acquiring new methods (34.9%). Elementary school teachers, however, think that dealing with learning difficulties requires increasing students’ self-confidence (28.3%) or finding new practices for students to learn differently (27.8%). The present article includes all three of these suggestions via the innovative practice it tested.

The Social Aspect of the Relationship to Knowledge

Charlot’s various studies (1997, 1999, 2000) show that learning at school depends largely on the student’s relationship to knowledge. One of the major achievements of this research, which focuses on students in middle and high school living in poor neighborhoods, is that learning processes transcend the students’ social backgrounds. It therefore enables us to go beyond explanations for failure based solely on traditional sociological determinisms and means refusing to think of failure exclusively in terms of deficits and gaps. Charlot’s approach thus breaks with theories attributing students’ failure or achievement to their socio-economic characteristics alone and with those that neglect students’ ways of acting, speaking, and thinking about knowledge.

12 Direction de l’Évaluation, de la Prospective et de la Performance [Department of Education, Division of Evaluation, Prospecting and Performance].

13 69.5% of elementary school teachers and 63.5% of middle school teachers
A student’s relationship to knowledge involves aspects of his/her identity, personal history, and relationships with teachers and peers (Wentzel et al. 2010), which evolve over the years of schooling. Moreover, relationship to knowledge also has an epistemic dimension that refers to the act of learning itself and attempts to answer the question: what happens when we learn? Charlot identifies three forms of this epistemic aspect to this relationship, which are not mutually exclusive:

- **Objectification-naming**: the process in which the student is conscious of learning knowledge.
- **Involvement of ‘I’ in a situation**: the process in which learning is mastering an activity to be able to act on one’s environment.
- **Distancing-regulation**: the process of mastering the relationship to self and the relationship to others; learning is thus being able to regulate that relationship.

Thus, the epistemic dimension of knowledge refers to processes (the act of learning), to products (knowledge and skills acquired and as institutional, cultural and social objects), and to individual and group learning situations. This study draws on these three components of the epistemic relationship to knowledge.

**Learning Stations**

The didactic contract between teacher and students, that is to say, the set of teachers’ behaviors that students expect and the set of student behaviors that teachers expect (Brousseau & Warfield, 1999; Warfield 2006) is established through a dialogical relationship of action that is both cooperative and coordinated around an object of knowledge (Sensevy & Mercier, 2007). The student acts based on his/her understanding of the requirements of the didactic contract, and the teacher must act according to the interpretation that the students have of that contract. The success or failure of relationships within the teacher-student-knowledge triad, therefore, depends on this comprehension of the contract, which is often a source of misunderstanding (Bautier & Rayou 2009). Establishing a dynamic learning transaction in the form of learning stations, where contextualization is created by this dialogue itself (Gumperz, 1992), should make it easier for students to better identify the language content to be learned, especially for struggling readers.

The field of ergonomics seeks to design and evaluate workstations based on technical and scientific knowledge as well as users’ needs, taking into account the difficulty of the task, time, space, performance, and productivity. Workstations are spaces in which users have the material resources and methods that help them do their work. In the classroom setting, the learning stations in this study are defined as a given activity that is identifiable by both the teacher and the student and whose goal is more effective teaching-learning situations, because while some content to be learned is easily identified by students, others are less clear. Designing teaching-learning situations as learning stations aims to create an understanding shared by the teacher and the students and to facilitate the identification of the content, thereby contributing to a clearer didactic contract.
Such a learning station exists within a spatio-temporal framework and the teacher specifies its place in the organization of the classroom, the physical space, the change over time in the station’s use, and the position it has in the teaching-learning sequence. It includes manual tasks to be done (drawing, underlining, etc.), i.e. “ways of doing” that cannot be reduced to cognitive tasks. It includes two types of tools: material tools needed for using the station and for clarifying the content for students (books, comprehension guides, digital media, etc.), and language tools (vocabulary, types of language to be used, etc.). Any station design has limitations that must be planned for and addressed. These constraints are related to the manual tasks to be performed and semiotic tools, particularly language tools. Finally, the work done at the station materializes through an expected created product that is defined according to the station’s validation criteria and can be evaluated. The assessment is not, in this case, of the student himself or herself, but of the product. It is thus objectified based on defined quality criteria and avoids any value judgment of the person of the student.

These five essential variables for the development of learning station are presented in the following table. If any element is missing, this is not a learning station itself.
Table 1: The learning station output grid

<table>
<thead>
<tr>
<th>Learning station : Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching content</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Place in the sequence of teaching and learning</td>
</tr>
<tr>
<td>Spatio-temporal framework</td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Manual tasks</td>
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<tr>
<td>Semiotic tools (meaning building tools)</td>
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<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Constraints of learning station</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Expected product</td>
</tr>
</tbody>
</table>
These building blocks make it possible to develop both a student and a teaching learning station. We will take as an example session 2\textsuperscript{14}, which is part of a teaching sequence on the role of dialogue in the novel presented below. The aim is to identify the characteristics of the character (homodiegetic narrator) to better understand his interpretation of the events that take place in the narrative. This session is built like a learning station. It has five inseparable units:

**Unit 1 Spatio-temporal framework**
Four groups are formed and distributed in the hall and in the classroom to facilitate discussions and debates. The four groups are heterogeneous. In each group there is a positive leader at the methodological and social level. The time of the session is 55 minutes.

**Unit 2 Manual tasks**
After reading the beginning of the novel, the group of students will pick out characteristics of the character and classify them by underlining them in the text with different colors. They must then transfer this classification on a poster.

**Unit 3 Semiotic tools**
Students have available to them three material tools necessary for the management of the station: the novel, the text of the first three chapters they annotate, the poster on which they organize their information. A language tool determined by the instruction: to reformulate the characteristics to identify in the form of a verb and a complement.

**Unit 4 Contraints of learning station**
Every station has constraints to do its work well. Here, teachers must quickly assess the autonomy of students in order to provide appropriate underpin: reading aloud, assist with reformulation, organizing information, etc.

**Unit 5 An expected product**
The expected product is the classification of the characteristics of the character on a poster and its oral presentation by the group.

These five units describe what needs to be done, how to do it, and what expected product to achieve. As a first step, the teacher can assess the management of the position by the students: space requirements, use of the material and language tools, realization of the technical tasks, degree of adaptation to the constraints. This first evaluation leads the teacher to consider then the competence and not only the performance of the student.

**New Practices and Assessment**

Assessment practices are at the very core of teaching and are used to further learning (Richard, 2004; Black & William, 2010). They are not exclusively focused on teaching content

\textsuperscript{14} Annex 1 : An example of learning station.
and can be distinguished from practices that are principally destined to provide information to potential users and partners in education, whether students, teachers, institutions or systems (Broadfoot, 2007). Therefore, considering that evaluation forms a continuum with the teaching-learning process (Rey & Feyfant, 2014), assessment practices have a different purpose depending on whether one is positioned as the teacher or as the student. These practices thus fall more within an interpretative approach rather than a docimological approach (Mottier-Lopez & Figari, 2012). A double evaluative approach has therefore been used in the present study.

From the teacher’s perspective, the purpose of assessment is not solely to measure and monitor student achievement, but also to gather information during the teaching-learning process. This means checking the effectiveness of the learning station and identifying individual educational needs in order to adapt teaching to reach the common objectives defined for the class. By not focusing only on knowledge or on procedures, the information collected helps teachers to respond to the diverse needs of their students in the class group. Thus, since the teaching no longer focuses on students’ shortcomings, this should further ensure equity in students’ access to knowledge. For the student, the goal of assessment is to provide information on his/her progress and which of the class objectives has been acquired or not. With this information, students can situate themselves in relation to the class goals and adapt their learning. Furthermore, the assessment in the present study included a participatory, reflection section encouraging the student to question his/her learning.

These formative assessment practices provide feedback to the teacher and to the student on the successes and difficulties encountered in order to adapt teaching-learning situations. They crystallize the teacher's and the students’ involvement in a learning process constructed together, placing evaluation at the heart of the dialogue between the teacher and the students about knowledge. Collecting information also enables the teacher to learn from students and develop his/her professional skills and for students to develop their evaluative judgments and engage in this interactive process.

Research Questions

By introducing a new learning method incorporating evaluation practices, this study seeks to make assessment fully part of the teaching-learning process. It analyses the possible link between students’ skills acquisition and beliefs about knowledge, particularly among struggling readers. The first phase examined whether using learning stations affected students’ relationship to knowledge and second, whether the change in the relationship to knowledge improved students’ reading comprehension performance.

Method and Study Context

The design of this research is an intervention study. Its goal is to measure the impact of learning stations in school contexts. In this study, assessment practices were observed in two
classes of the same middle school, 15 a suburban/semi-rural school with 30% of its students from low socio-economic status families. Two teachers were involved, a Special Education teacher and a French language teacher. Assessments were done during a classroom sequence where students were reading a young adult novel in their respective classes: one eighth-grade SEGPA class (15 students, 4 girls and 11 boys) and one sixth-grade standard class (26 students, 15 girls and 11 boys). In the eighth-grade SEGPA class, the new learning stations were integrated into the sequence to monitor the activity (class with learning station). The sixth-grade standard class is a control group (class without learning stations). The studied novel is the story of 14-year-old boy, Benjamin, with cerebral palsy, whose whole life is determined by daily rituals. The teaching content was “The dialogue in the narrative” and how to conduct an exchange between pupils in order to better understand a novel. The lesson plan for the sequence was jointly prepared by the teachers. The four-part assessment focused on students’ reading comprehension skills and their relationship to knowledge using variables accounting for the learning process, knowledge acquisition, and learning situations. The research steps are presented in the following flow chart:

<table>
<thead>
<tr>
<th></th>
<th>Diagnostic assessment of the skills of both classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Constitution of the two strong / weak target groups in each class</td>
</tr>
<tr>
<td>3</td>
<td>Preparation by both teachers of reading comprehension sequence</td>
</tr>
<tr>
<td>4</td>
<td>Integration of the new learning station into the sequence to monitor the activity in the eighth-grade SEGPA class</td>
</tr>
<tr>
<td>5</td>
<td>Implementation of the teaching sequence</td>
</tr>
<tr>
<td>6</td>
<td>Assessment of student’s proficiency in reference to comprehension process</td>
</tr>
<tr>
<td>7</td>
<td>Analyse of student’s relationship to knowledge through a questionnaire</td>
</tr>
</tbody>
</table>

**Table 2: The research steps**

Diagnostic assessments were conducted in September at the beginning of the school year. Students in the 8th SEGPA class have scored 63.59% of proficiency in the expected reading skills of the curriculum and the students in the sixth-grade standard class have reached 72.2%. Following this Diagnostic assessment, two target groups were then selected from the two classes: one comprised of the six highest-performing students from both classes, and one of the six lowest-performing students in both classes groups, totaling 12. The target group of the lowest-performing readers included students who experienced a variety of learning difficulties

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15 Grand Selve Middle School in the town of Grenade-sur-Garonne, Haute Garonne, France.


17 Annex 2: The four-part assessment.
characteristic of those with low literacy skills (Gersten et al., 1999). The 8th-grade SEGPA class will be referred to below as the Class with Learning Station. The 6th standard class will be called Class without Learning Station. Although students in these two classes were of different ages, their reading comprehension skills were equivalent/comparable.

The approach here is comparative in several ways. Both classes had roughly the same literacy level. Both classes read the same young adult novel with the same lesson plan for the sequence, similar course objectives, and followed the same schedule. The expected production at the learning stations was “reading aloud and dramatizing the characters” in different excerpts from the novel or in texts written by students (adding episodes, comments, etc.). All the expected productions were intended to help students understand, the relationships between the characters better, the distinction between their intentions and their actions, and the point of view that third parties may have about the characters and the different events of the novel, and all this through reading comprehension. Two educational assessments used in both classes were generated as questionnaires: the first one was filled out in the middle of the reading sequence and the second one at the end. The instructions given to students were identical, a standard corrected copy of student work was established, and both teachers graded each student’s work.

Assessment of Reading Comprehension Skills

The assessment of reading skills took the form of open comprehension questionnaires, short written productions and oral productions. Each evaluation consisted of exercises that were identical in both class. At the learning stations, each exercise included an additional specific question on the relationship to knowledge variables defined above. Each assessment included the items evaluating the four comprehension skills defined by the 2011 PIRLS international reading study:
- Focus on and Retrieve Explicitly Stated Information (level 1)
- Make Straightforward Inferences (level 2)
- Interpret and Integrate Ideas and Information (level 3)
- Examine and Evaluate Content, Language, and Textual Elements (level 4)

Student proficiency was assessed in reference to these four comprehension processes which are related to the barriers to understanding mentioned above.

Particular attention was also given as to the diversification of the types of responses for each of these four. Nine types of questions were used: boxes to check, multiple choice, writing one-sentence answers, fill in the blanks, passages to underline or cross out, justifying answers using parts of the text, putting in numerical order, filling in a table, and writing several sentences or a paragraph.

A standard corrected test using coding for each test was made to minimize grading differences between the two teachers. A reasonable threshold of an average of 0.5 points was defined, beyond which the two teachers jointly reviewed their grading.

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18 Progress in International Reading Literacy Study
The data collected in comprehension tests and quizzes were analysed in two different ways. First, a normative interpretation of the results in terms of quantitative values allowed a comparison of results within each class and between the two classes in the study. Second, each student’s comprehension level was assessed based on performance criteria that have been coded:

- code 1: exact or relevant response
- code 4: partially correct or relevant answer
- code 9: wrong or irrelevant answer
- code 0: no answer

This criterion-referenced interpretation allowed us to make comparisons between classes and analyze performance between and within each target group of students.

Assessing Students’ Relationship to Knowledge

Students’ relationship to knowledge was also analyzed through a questionnaire asking them to reflect on their own learning. The purpose of this questionnaire was to engage students in questioning their relationship to school-based knowledge. It also served to develop students’ self-assessment abilities. The variables for analysis were taken from the Dupont’s study (2015) on the development of literacy skills and are presented below in summary form. These variables were defined in two steps:

The first objective was to transpose and translate the students’ relationship to knowledge into a learning task, resulting in the following five variables:

For the ‘process’ component (the act of learning):
- Access to knowledge: how does the student approach knowledge?
- Independent thought: how does the student appropriate the content to be learned?

For the ‘product’ component (knowledge and skills acquired):
- Meaning of learning: does the student understand the usefulness of knowledge?
- Incorporation of knowledge: how is the knowledge embodied by the student?

Finally, for the component ‘learning situation,’ one variable was determined:
- School task: can the student distinguish between learning tasks in school and their broader objectives?

The second step involved making these questions accessible for students by adapting them to their learning activities and tasks. They invited students to reflect about the learning process, knowledge and skills acquisition, and learning situations. These variables are presented in the following table:
This categorization was used to create questions that students could understand, while adapting them both to the student’s work and classroom practices and seeking to remain faithful to the defined variables. Student responses were classified according to the variables examined.
Thus, three types of data were collected:
- Quantitative type: The students’ grades on the reading exercises
- Qualitative type: The reading comprehension skills achievement scores per PIRLS item and per student and the answers from the questionnaire on students’ relationship to knowledge

For the questionnaire on students’ relationship to knowledge, a content analysis was conducted on the whole corpus according to the different variables of relationship to knowledge. This content analysis produces a categorization, however it is not given from the outset. Categories are "rubrics that group a group of elements (the units of recordings) under a generic title (...) because of the common characteristics of these elements" (Bardin, 2001 : 150). The answers to each question in the questionnaire are studied as a function of the words that it contains or the ideas it represents. For example, to the question “You learned to identify the characters. What does that help you do in class?” Student responses can refer to the identification of a Romanesque genre (archetypal characters), to understanding the relationships between the characters, to remembering the story, to the success of an exercise or evaluation , to the realization of a task (to make a table, a list), etc. In order to guarantee the rigor of the analysis, the classifications were carried out separately by researcher in didactics and teachers, with an peer agreement then intervening to validate or restructure the classifications (Blais & Martineau, 2006).

Next, data from the two target groups was analyzed qualitatively. The first group consisted of six higher-performing students, three from the SEGPA class with a learning station and three from the regular class without a station. The second target group consisted of six struggling readers, with again three from SEGPA class with learning station and three from the standard class without a learning station. This qualitative analysis included the answers from the assessment items as well as responses from the questionnaire about the relationship to knowledge.

Results

Formative assessment, as presented in this study, provides information for teachers both about their students and their own professional practices so that they can adapt their teaching. It also provides feedback to students so they can situate themselves in relation to learning objectives, assess themselves, and better understand the content to be learned.

19 Annex 3 : An example of data Analysis for the Meaning of Learning
Quantitative Analysis of Performance

The normative interpretation of the assessment scores enabled a comparison of the results of the two classes in the study. On a quantitative level, the range of grades was much closer in the classroom with learning station than in the class without a station. The average range was 6.25 points between the lowest and the highest score compared with an average range of 11 points for the class without a learning station.

![Figure 1: Intermediate Assessment. Grade Distribution (out of 20) in the Classroom With and Without Learning Station](image)

In the classroom with learning station, this gap was significantly reduced (-2.5 points) between the assessment in the middle of the sequence and that at the end. This differed from the class without a learning station, in which the grade range remained largely the same for both assessments.
This reduction of the average range between the lowest and the highest grade resulted from students located below or around the average of the class whose grades improved. The criterion-referenced interpretation on student performance helped determine each student’s level of comprehension and resulted in the findings presented below.

Figure 3 : Intermediate Literacy Skills Achievement Percentage of the Classrooms With/Without Learning station.
Quantitatively, the reading comprehension skills achievement scores corroborate the findings above. The range between the lowest and highest achievement scores was lower in the classroom with learning station than in the class without a station. Thus, students with the greatest learning difficulties in the SEGPA classroom with a learning station were less numerous than in the standard classroom without a station. Consequently, the achievement scores of students with learning difficulties were higher than those in standard classroom.
Australian Journal of Teacher Education

Qualitative Synthesis of Variable Assessment and Quantitative Analysis of the Attitudes to Knowledge Variables

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Goal</th>
<th>Assessed Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General understanding of the novel</td>
<td>Acces to knowledge</td>
</tr>
<tr>
<td></td>
<td>Acces to knowledge in the classroom with learning station : Gain distinction in terms of task / activity – Greater commitment to the task : deeper argumentation Better visibility of the object of teaching : less different responses Building common meanings beneficial to learning : more homogeneous responses</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Character identification</td>
<td>Meaning learning</td>
</tr>
<tr>
<td></td>
<td>Exercise is much more successful in the classroom with learning station : The characters are correctly identified, The dog or rabbit are not seen as characters. Independent thought : The ability to get a better picture of the end « product » (drama) help the understanding of this particular difficult extract. Probably, because there is a product. Meaning learning : The learning station seems to have improved the tracking of the learning object. The pupils know why it is important to understand how to identify the characters.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Portrayal of the characters</td>
<td>School task</td>
</tr>
<tr>
<td></td>
<td>Best performance of the class without learning station (because it's more like a school work ?), to link dialogues and characters. School task : More answers argued in the class with learning station (better tracking of the objective of the teacher ?)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Commented of the sequence</td>
<td>Incorporation of knowledge</td>
</tr>
<tr>
<td></td>
<td>It’s more difficult to analyse. It seems that the classe without learning station doing more reference to school activities. Incorporation of knowledge : In the class with learning station, the topic of disability is covered with less compassion. The pupils take a positive outlook on this subject.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Synthesis of variable assessment
A qualitative synthesis of variable assessment carried out by teachers are presented in the following table:

Analyzing the quantitative variables on all students’ relationship to knowledge revealed a rather marked difference in the variable “Access to Knowledge” between students with a learning station (50% of the students had direct access) compared to those without (20%). For the great majority of students in the classroom without a learning station, knowledge was mediated through learning activities, tools, and tasks.

Regarding the variable “Meaning of learning,” the students in the class with learning station showed an understanding of the usefulness of knowledge. For students in the class without a station, knowledge was largely appropriated, but for a significant proportion of students the usefulness of knowledge remained external to themselves.

Analysis of the responses on the variable “Independent thought” shows that the students in the class with a learning station exhibited greater independent thought than those in the class without. For the other two variables used in the protocol, no major difference was found between the two classes.

In sum, in each of the two classes, the findings showed that a learning station in a teaching-learning sequence on reading comprehension fostered students’ independent thinking, improved their understanding of the usefulness of knowledge, and promoted direct access to the content to be learned.

Qualitative Analysis of the Focus Groups

To qualitatively analyze focus groups we use the four levels of comprehension skills defined by the 2011 PIRLS international reading study (cf. 3.1). This qualitative analysis of the target students showed that the higher-performing students in both the SEGPA and normal classes had largely the same reading profile and the same was true for the struggling readers in both classes. There was thus no significant difference between the classes with and without a learning station in terms of comprehension performance.

Summary of Stronger Readers

The six high-performing target students (3 from each class) demonstrated all four levels of reading skills: retrieve, infer, interpret, and evaluate. Variations in the grades and the achievement scores were similar in the two classes with and without a learning station. Therefore, the use of a learning station had no effect on the stronger readers, whose reading level was high or advanced compared to their peers. These students’ relationships to knowledge were varied and highlighted the unique character of individual beliefs about knowledge.
Summary of Students with Learning Difficulties

The six struggling readers in the target group were not able to reach a level of critical reflection skills, and this was true for both classes with or without a station. Their results show that they were only able to accomplish tasks at levels 1 and 2 (retrieve and infer), and thus their level was low or intermediate compared to their peers. Grades and achievement scores were higher for the students in the classroom with a learning station than for those without. Testing behavior also differed depending on the class: target group poor comprehenders in the class without a station did not answer the question if they were not sure, in contrast to those in the classroom with a station.

These findings concur with those of Martine Remond (2006) about the behavior of struggling French readers in PIRLS assessments. She found that French students had a difficult time with questions requiring a written answer. They succeeded at multiple choice questions and fill-in-the-blanks, but avoided questions where they had to write out the answers. According to Remond, the school habitus related to types of tasks and situations, the absence of critical thinking in the curriculum, poor management of instructions, and the relationship to doubt explained the poor results of French students. In the present study, it appears that the presence of learning stations changed the testing behavior of students with learning difficulties, as they did respond to questions even if they were not sure.

Link between Performance and the Relationship to Knowledge

These performances of comprehension of the group focus are then confronted with the different relationship to knowledge.

Target student performance on items for each of the variables was then analyzed. For the variable “Access to knowledge,” no correlation was found between it and achievement on the exercises—direct access to knowledge did not guarantee performance. Similarly, indirect access to knowledge with mediation through tools or tasks did not affect failure or success.

For the variable “Meaning of learning,” for the higher-performing students in the standard class, no correlation was found between understanding the usefulness of knowledge and comprehension performance. Presumably, higher-achieving students’ relationship to knowledge is a positive part of their identity and this influences their performance. However, for the better readers in the SEGPA class, the findings indicate a correlation between understanding the usefulness of knowledge and achievement. Finally, for the lower-performing readers in both classes, achievement and understanding the meaning of learning were closely intertwined. Thus, for these students, no split between the epistemic and identity dimensions of the relationship to knowledge was observed.

For the “Independent thought” variable, the higher the score on independent thought, the greater the achievement. This performance gain was observable among both more proficient readers and students with learning difficulties in both target groups. Thus learning stations, which encourage risk-taking since the students themselves are not judged but only the product of learning is evaluated, seem to make the students feel it is safe to think independently.
Regarding the variable “School task,” there was no correlation between performance on the exercises and a distinction or confusion between the school task and the learning objective. However, students who understood the utility of the content and the exercise performed better on the tasks.

Finally, for the variable “Incorporation of knowledge,” the higher-performing students performed better when the knowledge was incorporated. For students with learning difficulties, no connection was observed between comprehension performance and incorporation of knowledge.

In conclusion, analysis of the two target groups showed that introducing learning stations influenced the variables “Independent thought” and “Meaning of learning” in the students’ relationship to knowledge. For the higher-achieving students, the variables “Meaning of learning” and “Incorporation of knowledge” appear to have had a significant impact on their performance. For students with learning difficulties, having a learning station influenced the variable “Meaning of learning” and high scores on the variable “Independent thought” resulted in considerable performance gains.

**Discussion**

In order to have more inclusive schools that include students with serious learning difficulties, this study combined and examined new teaching and assessment practices. In so doing, it not only analyzed the relation between these two practices, but also the added value of assessment practices. Moreover, this study examined whether introducing learning stations would help students with learning difficulties, by addressing the three suggestions highlighted by teachers in the French Education Ministry’s DEPP survey: new strategies and methods, building students’ confidence, and learning differently.

**New Assessment and Teaching Practices**

Learning stations use was a part of a broader formative assessment for four interrelated reasons. Firstly, in fact, the content to be learned at these stations was more easily identified by students because they knew what to expect in terms of product. This product could also be evaluated by the students themselves, or their peers, in order for them to modify their task learning. Secondly, these learning stations thus helped students to develop their self-assessment skills as well as peer assessment skills by evaluating the product to be created at the station according to pre-established criteria. Thirdly, the expected product became the mediator in evaluative judgment, thereby removing interference related to interpersonal judgments within a class group. And fourthly, predefining validation criteria improved students’ confidence by nurturing a sense of accomplishment. In fact, students took part in an active process of learning, seeking effective strategies and methods of empowerment in their learning.
In classroom practice, the gap between the lesson plan and what the teacher actually did in class was thus significantly reduced, which contributed to better class management. The teachers looked for the causes of the variations in student performance, without focusing exclusively on content and procedures. This enabled them to identify individual educational needs within their class group in order to better meet those needs and to reduce the differences in achievement. The finding that scores coalesced around the middle of the group, to the benefit of below-average students, shows that inequalities in achievement were reduced.

For the teachers, the relevance of the variables examined helped them evaluate their own teaching-learning practices and increased their professional expertise. This in turn enabled them to improve the effectiveness of their teaching in order to help their students improve.

The Usefulness of Assessment

These formative assessment practices with learning stations thus identified particular educational needs, within the dialectic between a student’s individual needs and those of the group. Moreover, they made the student responsible for his/her own learning and made the teacher the mediator between individual needs and group needs. This type of learning station, therefore, led students to learn differently. Learning stations also required the teachers to consider each student as an individual learner within a classroom as the group interacts in a learning situation. In fact, what may be an individual educational need may also be a need shared by the group of students in the classroom (Desombre et al., 2013).

Beyond their formative function, assessments in these stations also ultimately helped teachers evaluate the effectiveness of their teaching practices and enabled them to adapt their teaching (De Ketele, 2013). Assessment helps improve teachers’ professional development by increasing their capacities to develop an inclusive evaluation process to better serve learning. It is important for teachers to self-assess and to dare to experiment in order to grow professionally and to better help students with particular educational needs. Moreover, in this way, teachers can offer powerful counter-arguments against the often automatic medicalization and institutionalization of students with learning difficulties.

Moreover, these kinds of assessment practices do more than simply measure achievement in a given exercise or mastery of a particular skill; they enable us to design specialized instruction for students with particular educational needs and to work with students to set their educational goals. By using the information gathered in assessments to define needs in a specific learning context, the student is considered as a unique individual in a class and not a failure, whether she/he has serious learning difficulties or a disability. This kind of paradigm shift would thus help make schools more inclusive by internally changing the education system as well as by changing attitudes to learning.
Conclusion

Introducing learning stations reduced the performance gap between struggling and more proficient readers, benefitting the weakest students as scores crystallized around the median of the group. The learning stations changed the relationship to knowledge for students with considerable learning difficulties. In these stations, access to knowledge was direct, without mediation through educational tools and tasks. Moreover, knowledge was more internalized by SEGPA students.

In addition, learning stations promoted independent thinking among students. Since the didactic contract was better controlled when using stations, this led to a sense of satisfaction of tasks well done among students and clearly reduced the gap between the lesson plan and what teachers actually did in class. As the station explicitly defined the responsibilities of the students, the teacher, and the teaching-learning situation, students were better able to identify what was expected of them and act to fulfill those expectations.

This study has shown the benefit of combining assessment to innovative teaching practices. This in turn affects the epistemic and identity aspects of struggling students’ relationship to knowledge, which are keys to developing more inclusive education. These pedagogical instruments can be implemented regardless of the students' native language to develop their literacy skills with the same principles. This study encourages us to reconsider on a fresh basis broader formative assessment practices so they do not focus exclusively on skills. Using formative assessment helps students to learn better and foster their desire to learn; it is integrated with new teaching practices (Looney, 2011; Oswalt, 2013). These help promote inclusion and are worth exploring further as part of the discipline of improvement science (Bryck, 2004) which develops practice-based evidence, along with the expertise of practitioners and researchers, as an essential complement to findings from other forms of educational research.
Annex 1: An example of learning station

Un exemple de poste de travail

<table>
<thead>
<tr>
<th>Poste de travail n° 1 Séance 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objet du savoir</strong></td>
</tr>
</tbody>
</table>
| **Place dans la séquence enseignement/apprentissage** | Rituels : Rappel de ce qui a été vu précédemment. Retour sur les hypothèses effectuées. (dévolution) 5 minutes  
Présentation du poste de travail (dévolution) 5 minutes  
Exécution de la tâche (dévolution par groupe) activités de recherche : 25 minutes  
Mise en commun et constitution d’un référent commun (dévolution et institutionnalisation) 20 minutes |
| **Espace spatio-temporel** | 4 groupes : 3 trimères : répartis dans la salle en îlot et dans le hall pour éviter les gênes, les bruits et faciliter les discussions et les débats. Chaque groupe est hétérogène en son sein, avec un leader positif au niveau méthodologique et social ; il n'y a pas de groupes de niveau.  
1 groupe de 4 (dans la salle) hétérogène avec deux leaders positifs au niveau méthodologique et social.  
Salle de cours  
Séance de 55 min |
| **Tâches techniques** | - Lire le texte  
- Surfigner dans le texte les rituels de Benjamin les jours d’école, les difficultés de Benjamin de couleur différente.  
- Compléter l'affiche sous forme de liste. |
| **Outils sémiotiques** | **Outils langagiels** :  
- Repérer les éléments caractérisant le personnage principal du récit à travers les rituels et les difficultés de Benjamin.  
- Les reformuler sous forme verbe-complément  
**Outils de gestion du poste** :  
- les textes des chapitres 1-2-3  
- une affiche à compléter |
| **Contraintes du poste** | Pour lister,  
- repérer dans le texte les éléments saillants  
- les écrire de manière concrète et claire en respectant une structure syntaxique  
Montrer ce qu’il faut faire avant d’engager les élèves dans la tâche en commençant la lecture à haute voix et en exécutant les tâches techniques. |
| **Produit attendu** | **Produit attendu (au mieux)** :  
- liste exhaustive des rituels et des problèmes de Benjamin en respectant la contrainte syntaxique. |
| **Validation du poste** | Validation par échange collectif au regard des critères du produit attendu y a—il des oubliés ? |
Annex 2: The four-part assessment

Part 1: Overall understanding of the novel and criteria "Access to knowledge"
- Instructions for the exercise: Choose from these back covers (fourteen extracts) the three stories are similar to the novel as "The day I missed the bus."
  Classify them closer and closer at least and selected one or more arguments to justify your choice.
  I chose this book because:
  a) It speaks of a disabled child.
  b) it shows that different children are poorly accepted by others.
  c) it shows that it is difficult to have a disabled child in a family.
  d) it shows that different children can become heroes.
  e) it shows that a disability can afford to take difficult situations.
  f) it shows that some meetings help to grow.

How could you make that choice?
- Questionnaire relationship to knowledge: In this exercise, what did you have to do? What did you have to learn?

Part 2: Identification of characters and criteria "Meaning of learning", "Independent thought"
- Instructions for the exercise: after reading a novel by Marie-Aude Murail "Simple" answers the following questions:
  Who are the characters in this scene?
  What do you know about them (name, age, description)
  Highlight their words a different color.
  Circle the verbs that introduce the dialogues
- Questionnaire relationship to knowledge: You learned to identify the characters. What is it in the classroom? / What seems important for you to read or play this scene?

Part 3: Characterization of the characters and criteria "School task"
- Instructions for the exercise: Here are some characters of the novel "The day I missed the bus": the psychologist, the captain of the ferry, Dagrier Ms. Benjamin, the young skater, Ms. Galestrain, the director of St. Thys. Write the name of the one who was able to speak the following words.
- Questionnaire relationship to knowledge: You learned to identify the characters. What use for you in your class?

Part 4: Receipt of the novel and criteria "Incorporation of knowledge"
- This part of the assessment only included the questionnaire relationship to knowledge. It was expected that pupils build on their understanding of the novel to answer.
- Questionnaire relationship to knowledge: You just read and worked on a novel, "The day I missed the bus," how can this be useful to you
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