

**Département de Sciences de l'éducation**  
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Research summary produced by: **Mélina DOGUET**

Student number: **22113929**

Under the supervision of: **Julia BOWYER-TAGG**

Search topic: **teachers and pupils with specific educational needs**

Title: **Use of an Individual Digital Device (IDD) by dyslexic persons**

Research question: **How the implementation of an individual digital device could improve the school curriculum of dyslexic pupils?**

# Scientific research category:

## An efficacious individual digital device for dyslexic students

### Step 1:

Read a lot of scientific articles to find a research subject

### Step 2:

Test our hypothesis by a qualitatively approach with a half-guided interview

### Step 3:

Deal with research in depth by a quantitatively approach with a questionnaire

### Step 4:

Confirm or reject our hypothesis

We have decided to record an audio version to allow anyone to learn about this subject. You can find them here: <https://portfoliomeido93.wixsite.com/website-1/mes-projets-en-licence-sde>

### Abstract

In Spring 2022, a student of Rouen University published a relevant paper about ICTE<sup>1</sup> and handicap to pass her bachelor's degree. This paper dealt with "teachers and pupils with specific educational needs". It was titled "Use of an Individual Digital Device (IDD) by dyslexic persons". She decided to work on this subject because there are lots of digital devices in the educative market to help disabled pupils, but few are adapted and provided to dyslexics. Therefore, the student decided to work on the inclusion of dyslexic pupils at ordinary schools and she tried to answer the following question: **How the implementation of an individual digital device could improve the school curriculum of dyslexic pupils?** She established a theory: an IDD responding to specific needs of dyslexic pupils could improve the scholar curriculum. To confirm or reject her theory, she adopted a qualitative approach to conduct a half-guided interview with a software designer specialized in 'dys' disorders, but she also adopted a quantitative approach by sending forms to be filled to a dyslexic audience so that she could analyze the results. Following this research, the student was able to confirm her theory thanks to her analyses: she could confirm that dyslexic pupils would have a better scholar curriculum if they could use an IDD adapted to their needs. However, she noticed that if the device was not used properly, it would not be effective, and the pupil could face difficulties because their disorder would not be offset.

### *Few sentences to speak of dyslexia*

Dyslexia is a disorder related to difficulties to read, or difficulties to recognize and reproduce written language. At school, we may see consequences of dyslexia. They are related to reading, for example: a slowness or errors in reading, moving back while reading to understand the meaning of what is read. They might also be related to writing, for example: typo mistakes, word copy mistakes, save of syllables, conjugation, grammar, analysis mistakes, slowness at executing time, hesitations, and poverty of productions.

### *Consequences of dyslexia at school and possible help*

Some studies show that during their schooling, the dyslexic pupils are subject to mocking, humiliation, insult, and violence. That can have serious consequences, especially on anxiety, school results, development to school phobia or depression. So, it's important to help at offset their disorder to lead to a better school experience. Now, some helping devices can be made available, but usually only one child out of ten benefits from this kind of pedagogical adaptation. An article of Blouin and Fougeyollas (1989) explains that "*technologies involve an environmental variable in the conceptual frame of the process from production to handicap*" and that he makes it possible to do offset: the deficiency can be substituted to the deficient organ, to the disability increasing functional capacity, to the disability conferring more autonomy of the daily living.

<sup>1</sup> ICTE : educative information and communication technology

## Interview and analysis

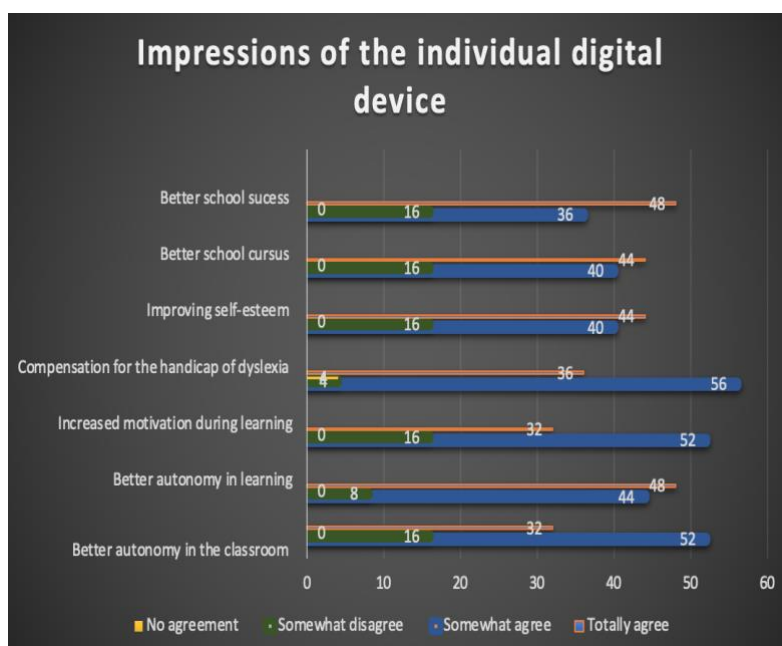
**Tool used:** half-guided interview

**Objective of the interview:** describe real needs of dyslexic persons, understand the stakes related to the use of an Individual Digital Device (IDD), understand the evolutions related to an IDD in a company specialized in this area.

**Modalities of the interview:** by phone call, on 25<sup>th</sup> of February 2022 between a student and a software designer. The student relied on an interview prepared in advanced. The grid includes five topics: the creation of the Ordyslexie device, the Ordyslexie device nowadays, the implementation of the Ordyslexie device, the use of the Ordyslexie device when it is correctly integrated, the evaluation of the Ordyslexie device.

**Analysis results of the interview:** allow to understand that a piece of software needs to meet an existing need to be effective. The dyslexic's needs do not change over time, what changes is the ICTE. With an IDD, the pupil can follow an effective and useful working method which will increase help to increase the average level of the class as well as the social comfort. The IDD is not a useless device since it is effective.

## Questionnaire and result section



**Tool used:** a questionnaire including eight questions intended to an audience using an Individual Digital Device (IDD).

**Objective of the questionnaire:** go into the interview in depth and confirm or reject the theory.

**Modalities of the questionnaire:** distribution of 37 questionnaires and collection of 25 responses.

**Organization of the questionnaire:** one question to identify the type of dyslexia of a person, one question to get the opinion of the dyslexic person about IDD, two questions to understand how the person use the IDD, one question to know if the school curriculum of the dyslexic person has improved, one question to understand the impact of the person's dyslexia on their

school orientation, and with that, know if the school curriculum was successful.

**Analysis results of the questionnaire:** this study showed that when the IDD is used correctly, the pupil learn better. Most of the interrogated people suffered from a phonological (44%) or mix (33%) dyslexion. Concerning their opinions on the IDD: 84% think that the IDD enable an autonomy in class, 92% think that IDD enable an autonomy in learning, 84% think that IDD increase the motivation for learning, 92% think that IDD offset their disability, 84% think that IDD improve the self-esteem, 84% think that IDD increase the school cursus, 84% think that it help to have a better school curriculum. Thus, those results show that the use of the IDD functionalities benefits totally to 40% of the audience, benefits partially to 32% of the pupils and does not benefit to 28% of the pupils. To conclude, an IDD effective and well-integrated allows to improve the school curriculum.

## Conclusion

This search allowed to understand that a pupil who has offset their dyslexia thanks to an IDD help would fill the next observations: autonomy with their IDD, autonomy with their learning, feeling to have offset their disability, no lack of confidence related to a bad school integration, significative improvement of the overall level after the integration of the IDD, possibility to choose their teaching pathway.