

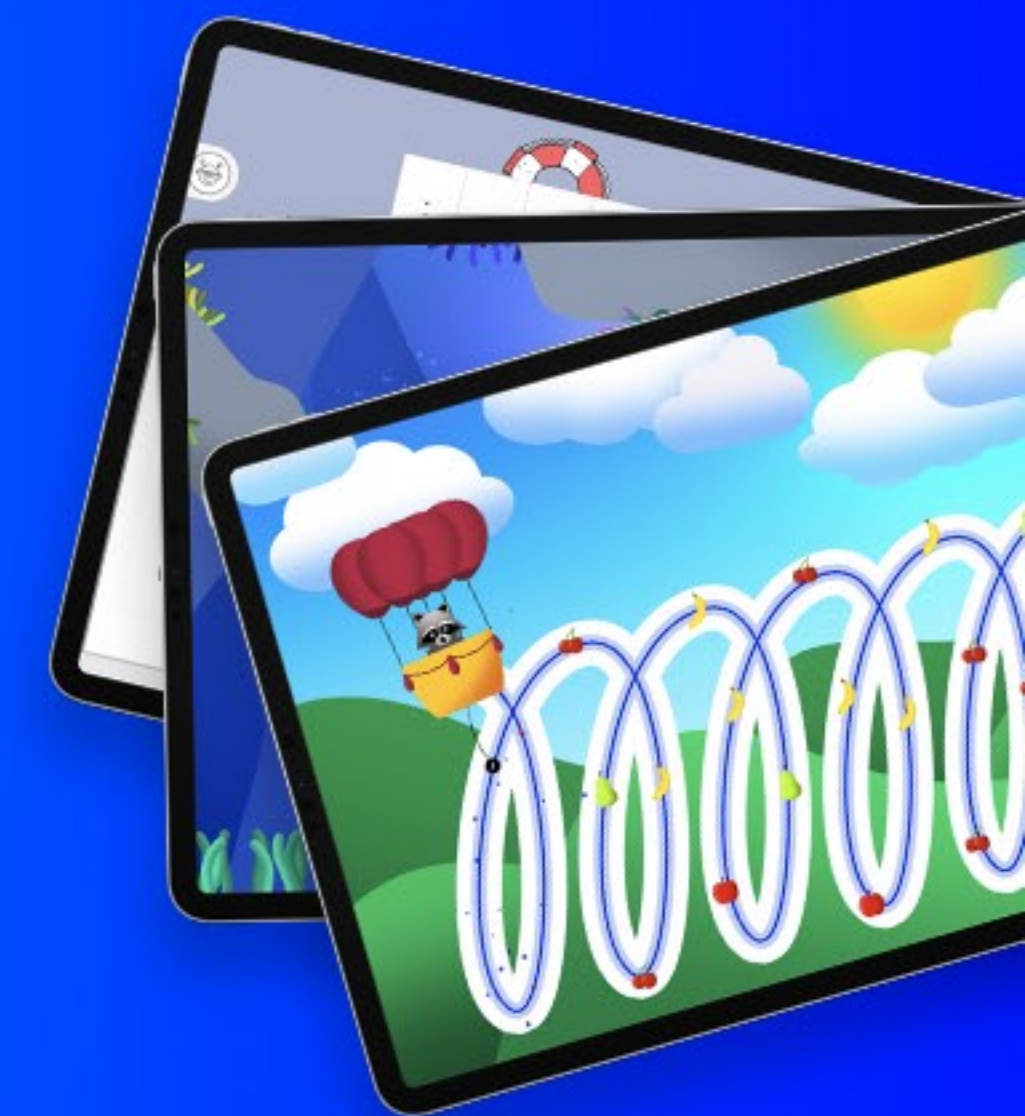
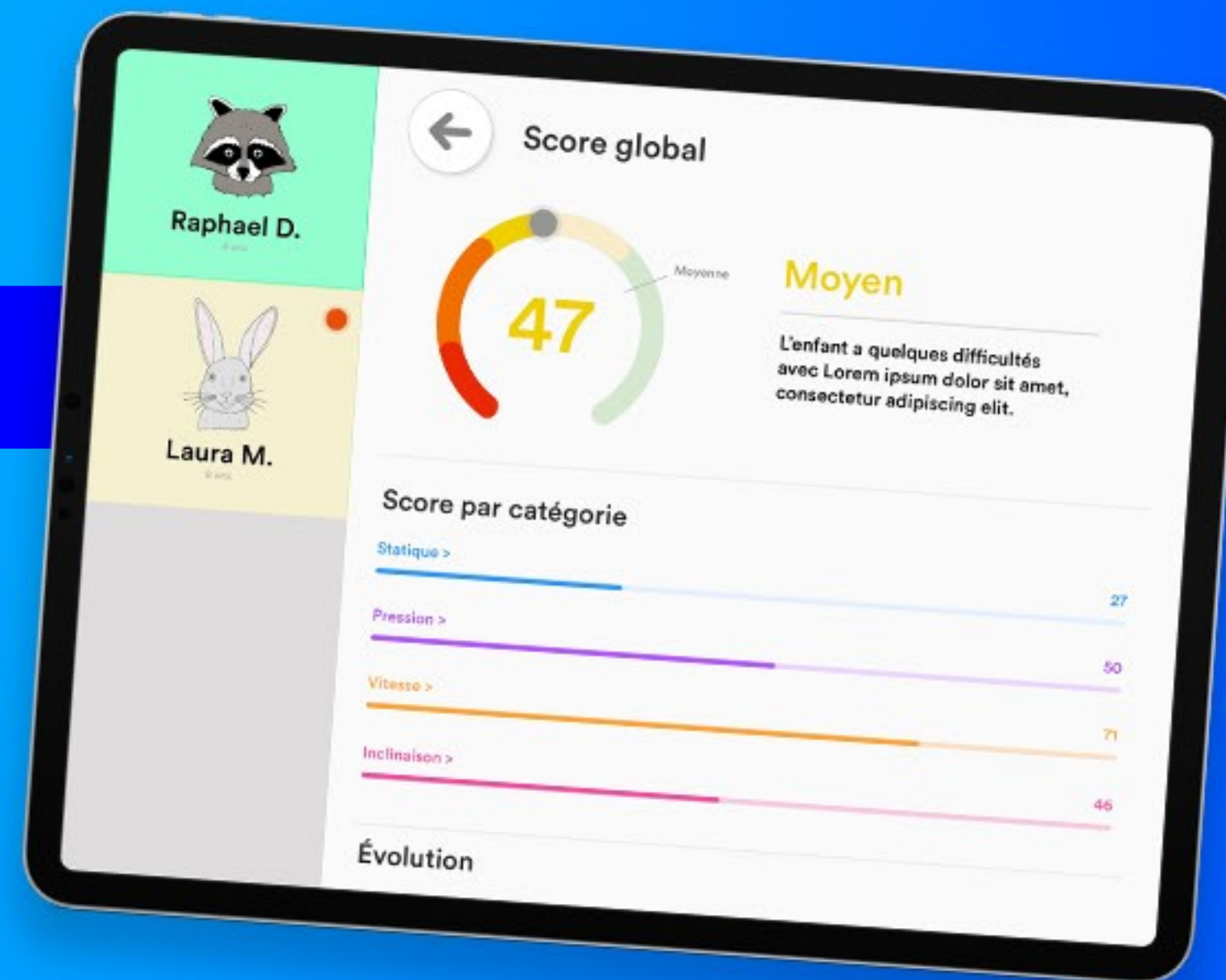
# SCHOOL REBOUND

developing Dynamico, the application against handwriting difficulties



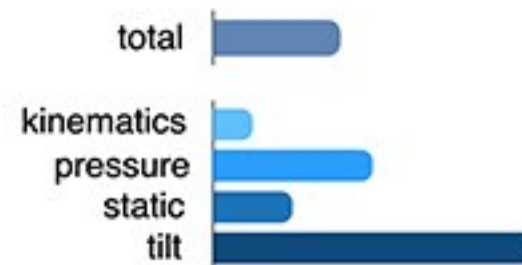
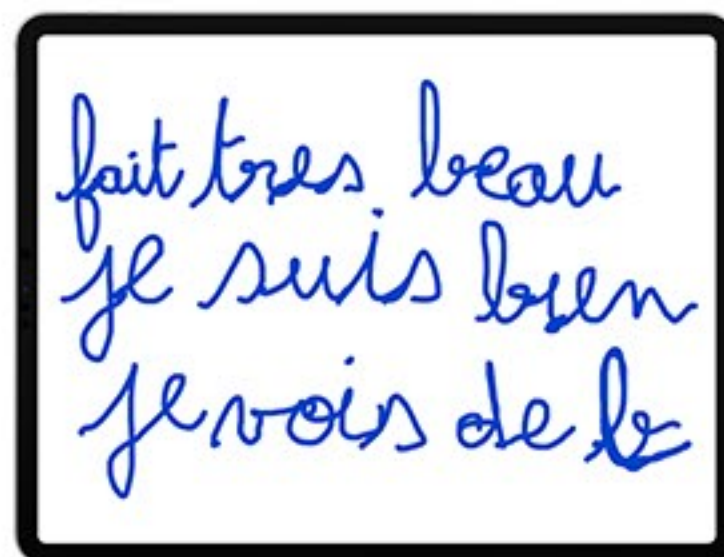
Progress monitoring

Analysis in 30 seconds

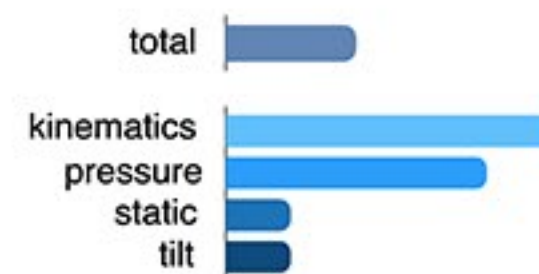
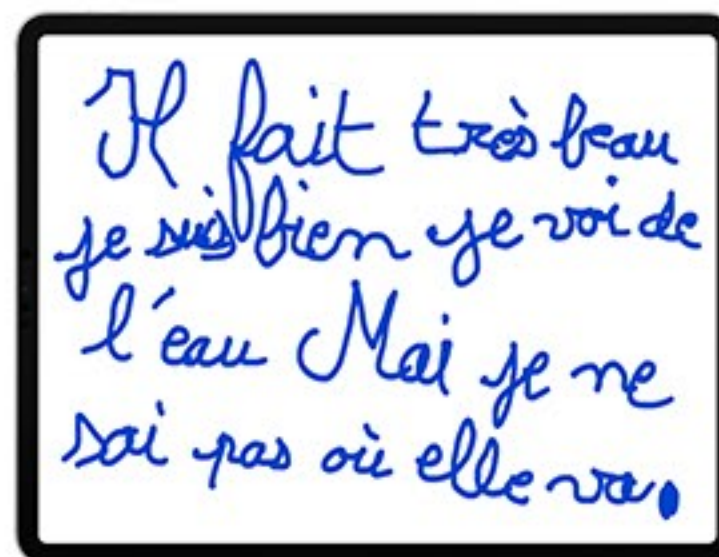


Remediation activities

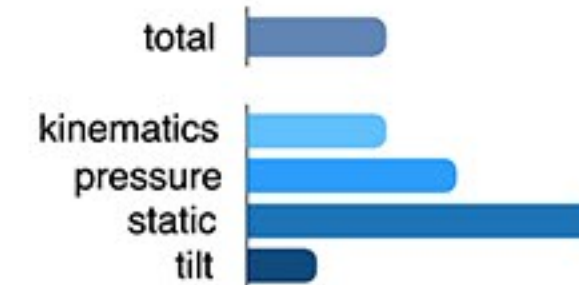
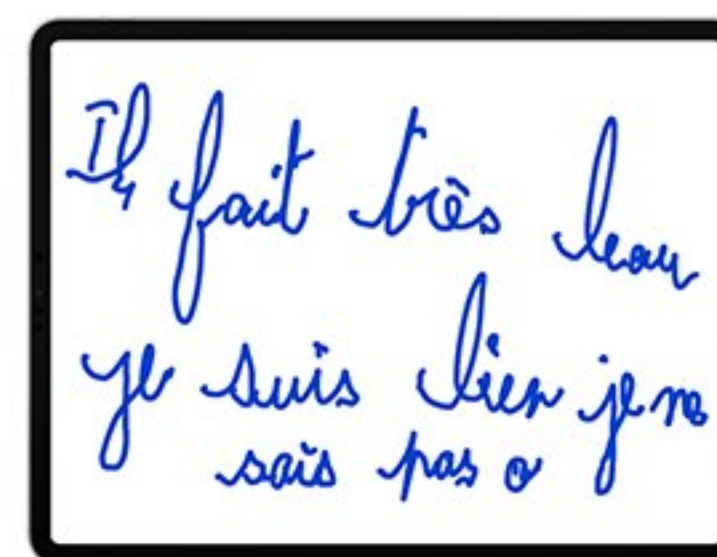
Marc, 8 y.o



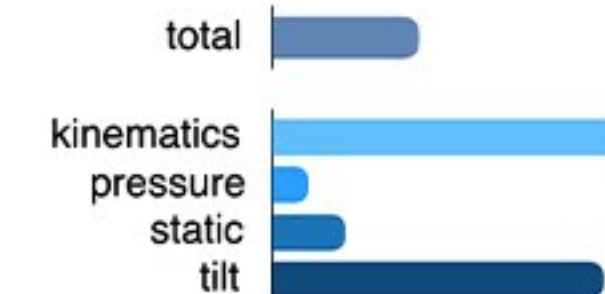
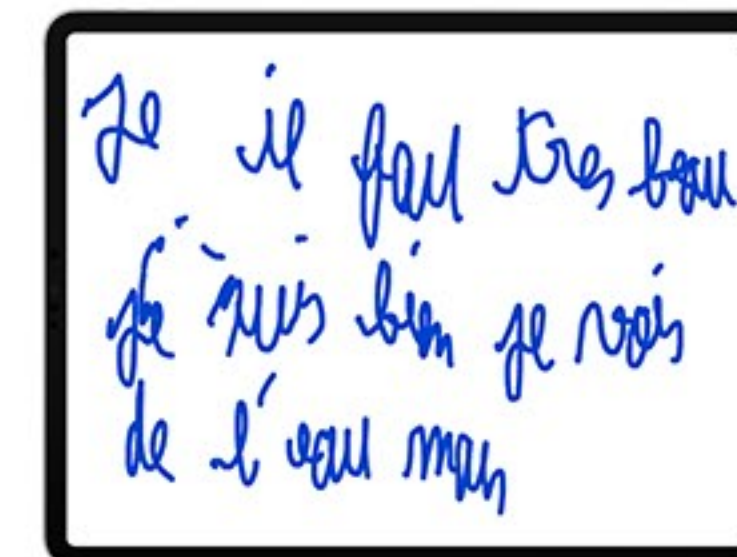
Patrick, 5 y.o



Julia, 6 y.o



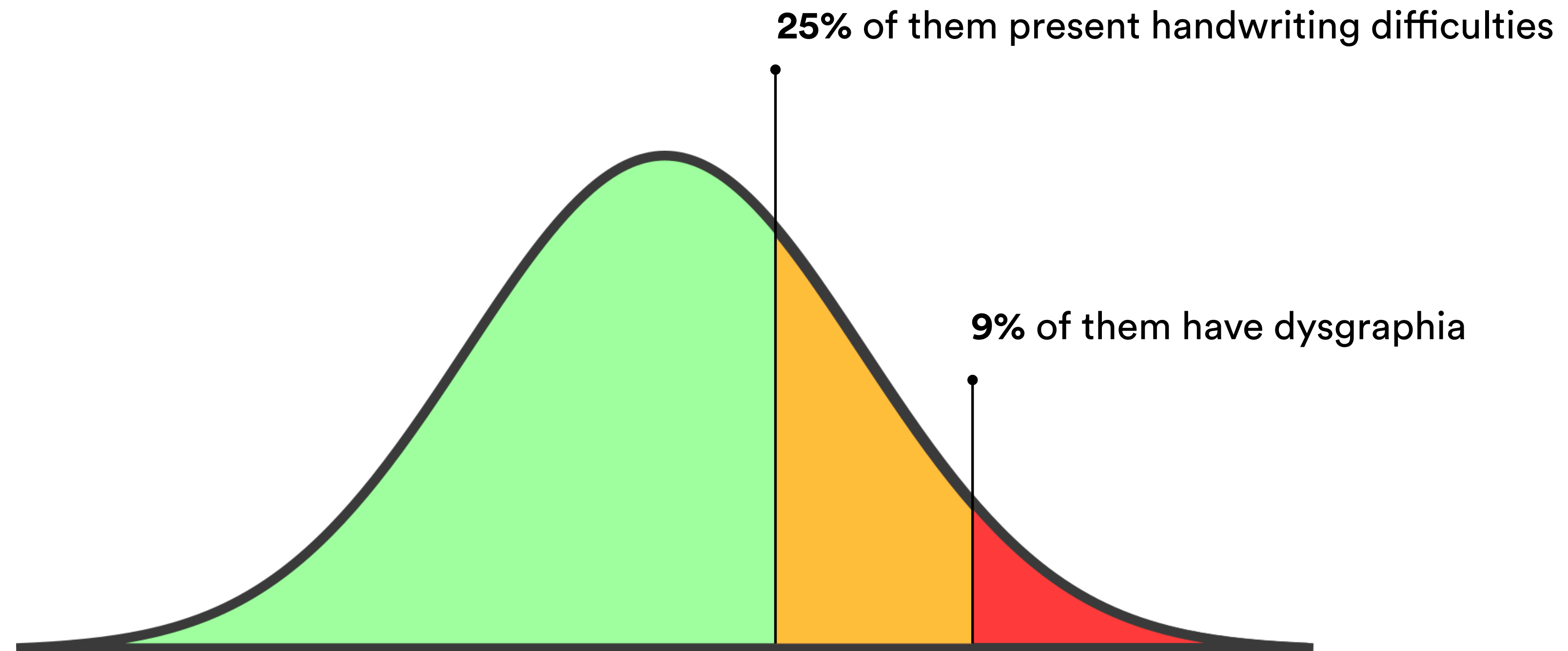
Stephanie, 7 y.o



FOR THERAPISTS

FOR HOME

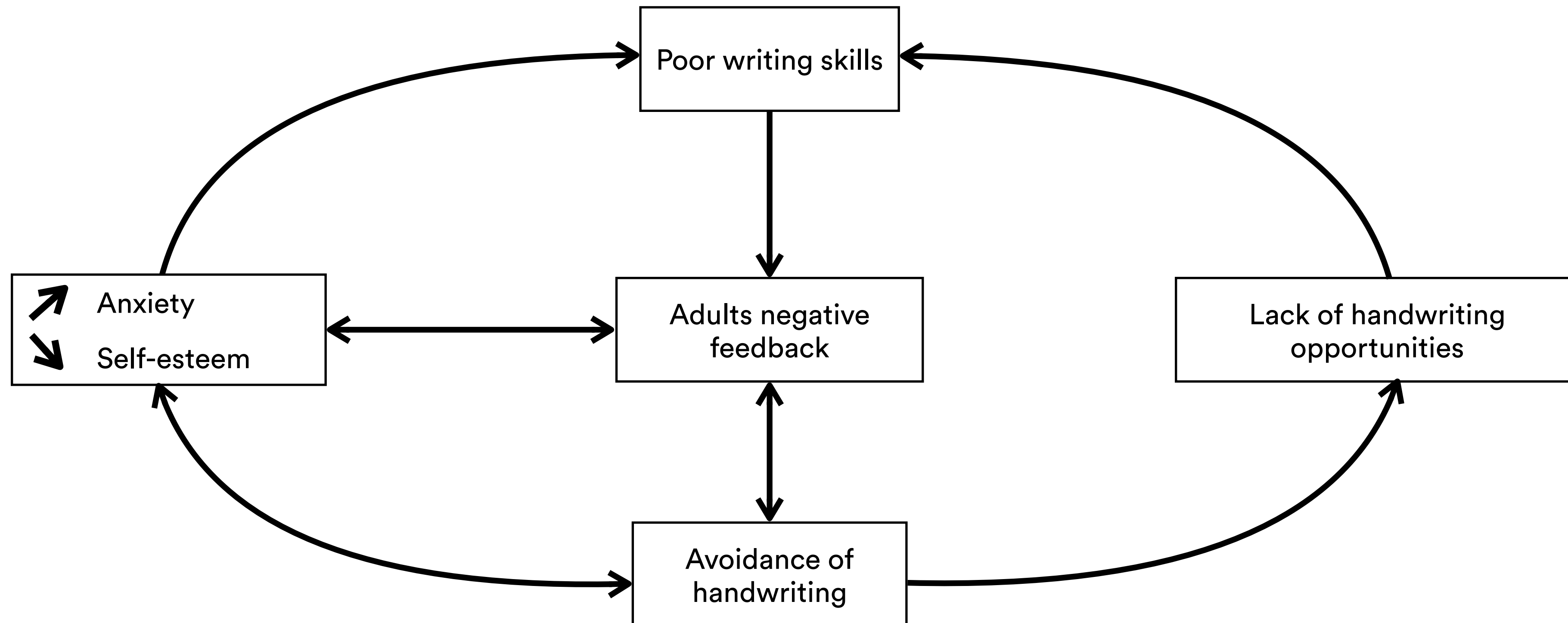
FOR SCHOOLS





# What are handwriting difficulties?

Critical consequences on the child's school curriculum but also on his/her behaviour



Il fait très beau  
 Je suis bien  
 Je vois de l'eau  
 Mais je ne sais pas  
 où elle va.

CRITÈRES						TOTAL	
1. Ecriture grande							
2. Inclinaison de la marge vers la droite							
	Phrases	1	2	3	4	5	
3. Lignes non planes							
4. Mots serrés							
5. Ecriture chaotique							
6. Liens interrompus entre les lettres							
7. Télescopages							
8. Variation dans la grandeur des lettres troncs							
9. Hauteur relative incorrecte							
10. Distorsion des lettres							
11. Formes de lettres ambiguës							
12. Lettres retouchées							
13. Hésitations et tremblements							
Score Total							





## Subjectivity

Relies on human judgement.

Small (60%) inter-rater agreement.



## Time-consuming

Takes 5 minutes for children to pass the test.

Takes 15 minutes to correct it.



## Costly

Experts need to be trained to acquire the expertise for grading.

Grading takes time.

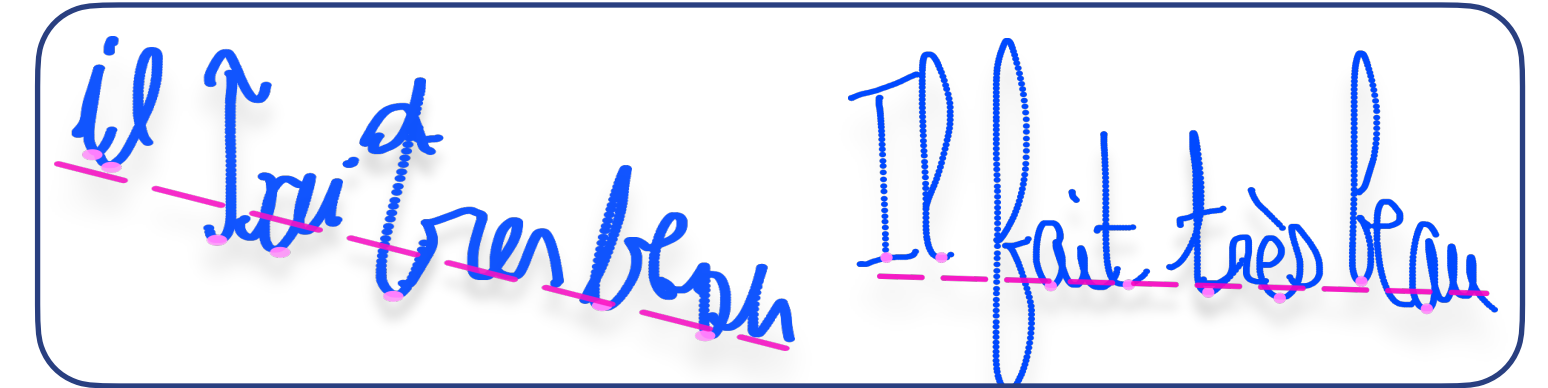


## Neglect informations

Test done on paper:  
All the dynamic, pressure and tilt characteristics of handwriting are not perceivable.



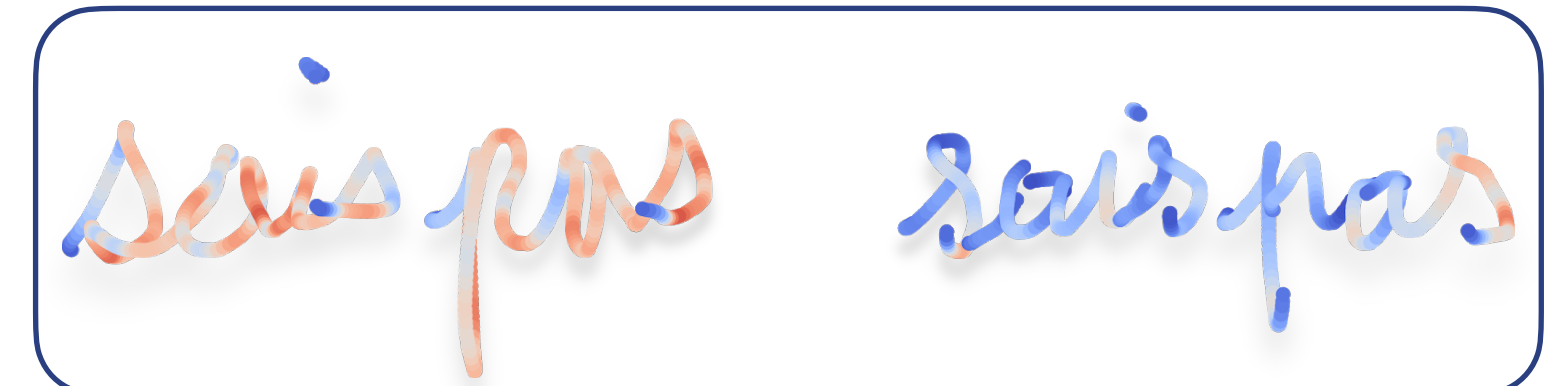
## Static



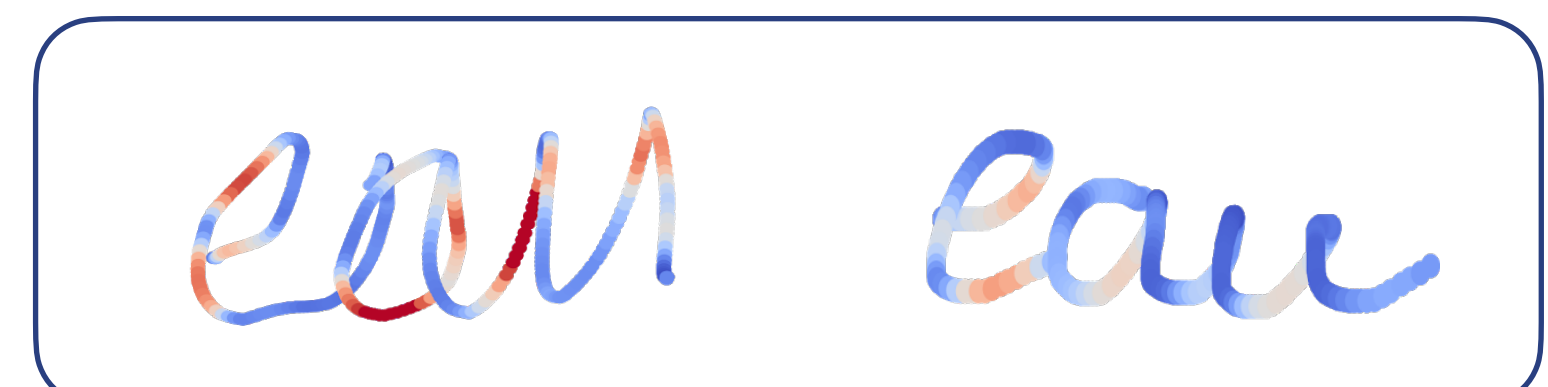
## Kinematic



## Pressure



## Tilt



Dynamico - une tablette contre les dysgraphies



Une tablette au secours des élèves qui peinent à écrire

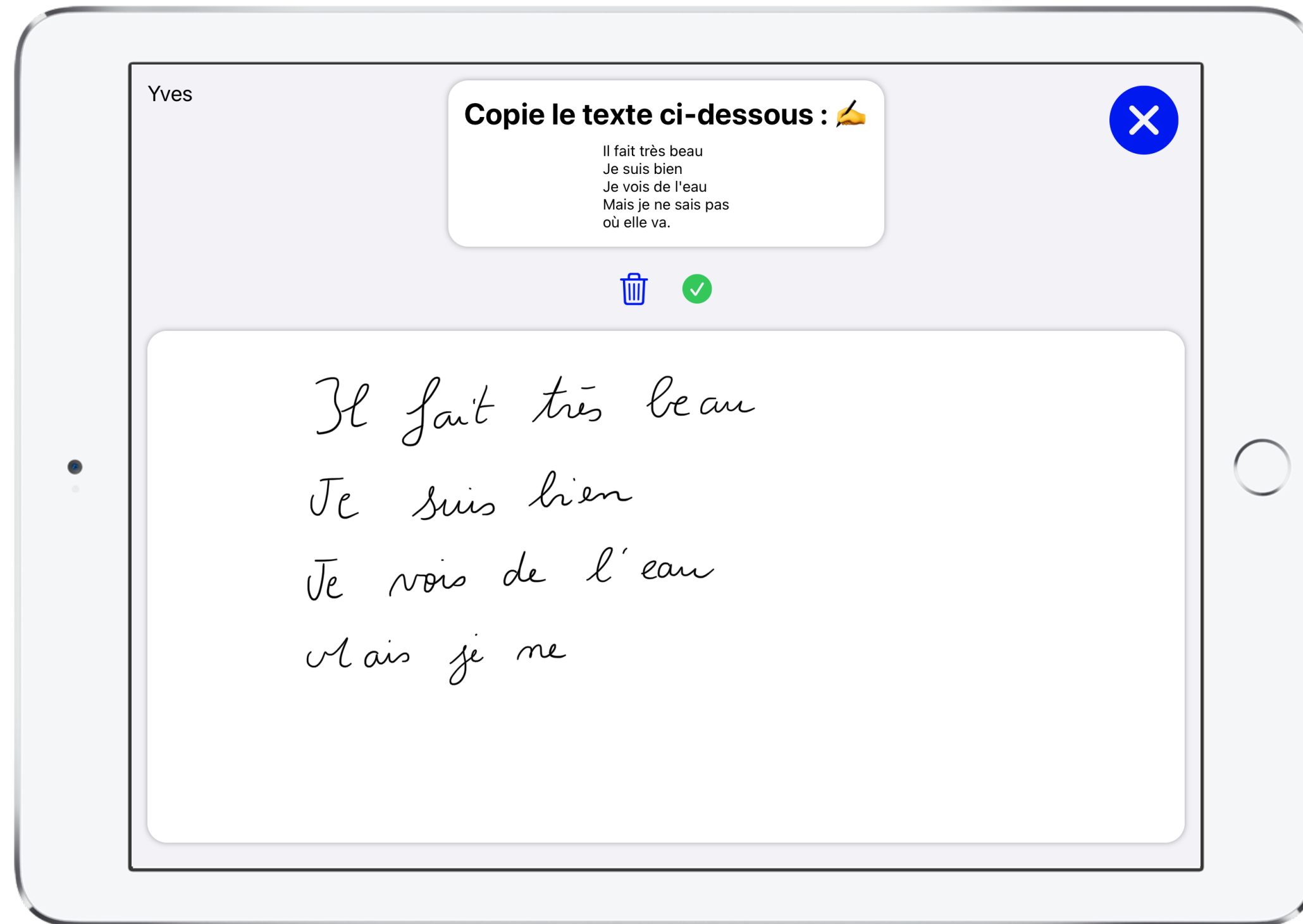


Asselborn et al., Automated human-level diagnosis of dysgraphia using a consumer tablet, 2019



Asselborn et al., Extending the spectrum of dysgraphia, a data driven strategy to estimate handwriting quality, 2020





Asselborn et al., Automated human-level diagnosis of dysgraphia using a consumer tablet, 2019



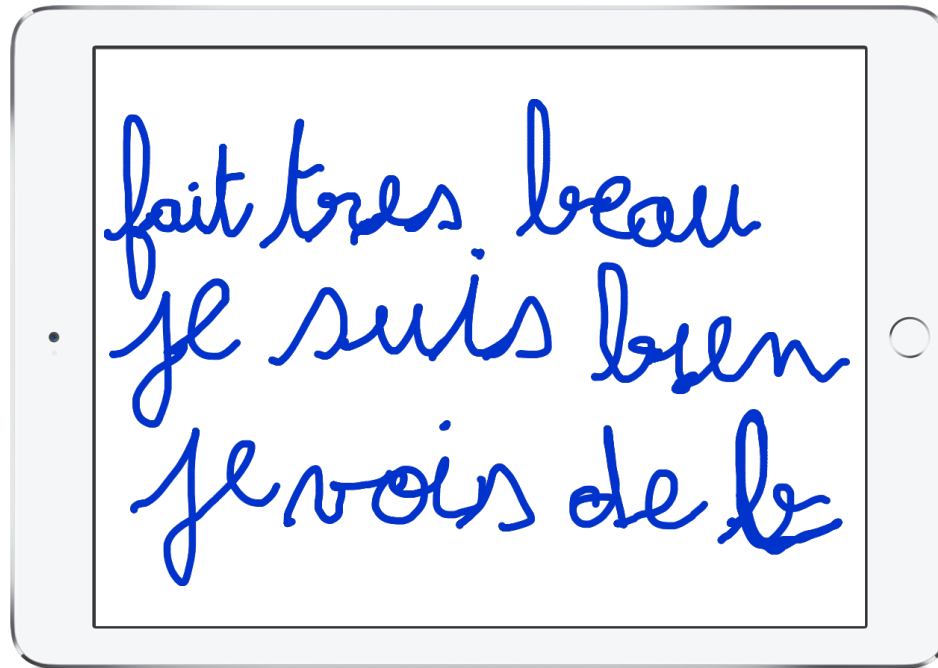
Asselborn et al., The transferability of handwriting skills: from the Cyrillic to the Latin alphabet, 2020



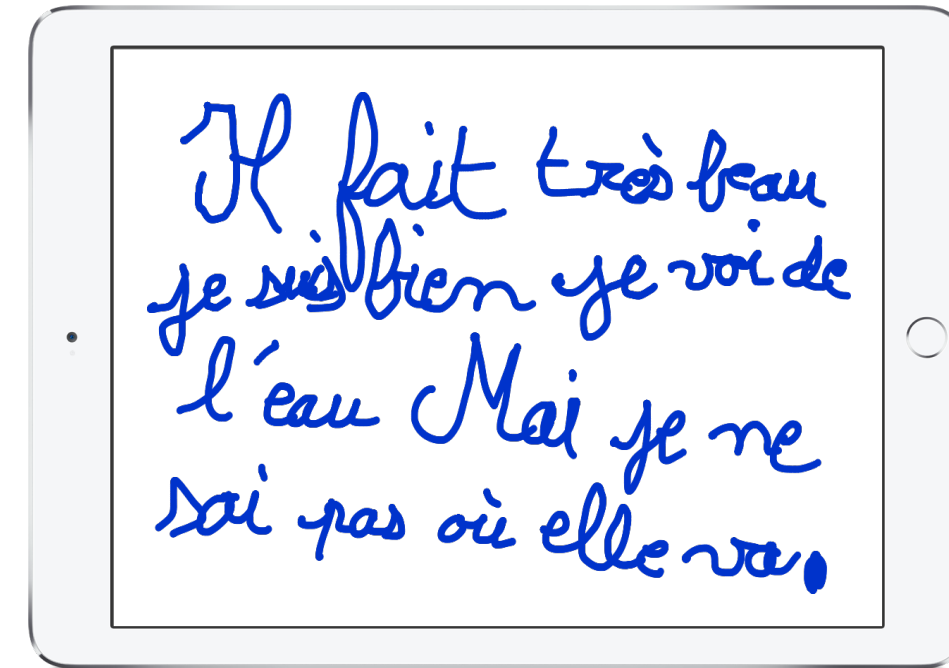
Asselborn et al., Extending the spectrum of dysgraphia, a data driven strategy to estimate handwriting quality, 2020

There are different varieties of handwriting difficulties!

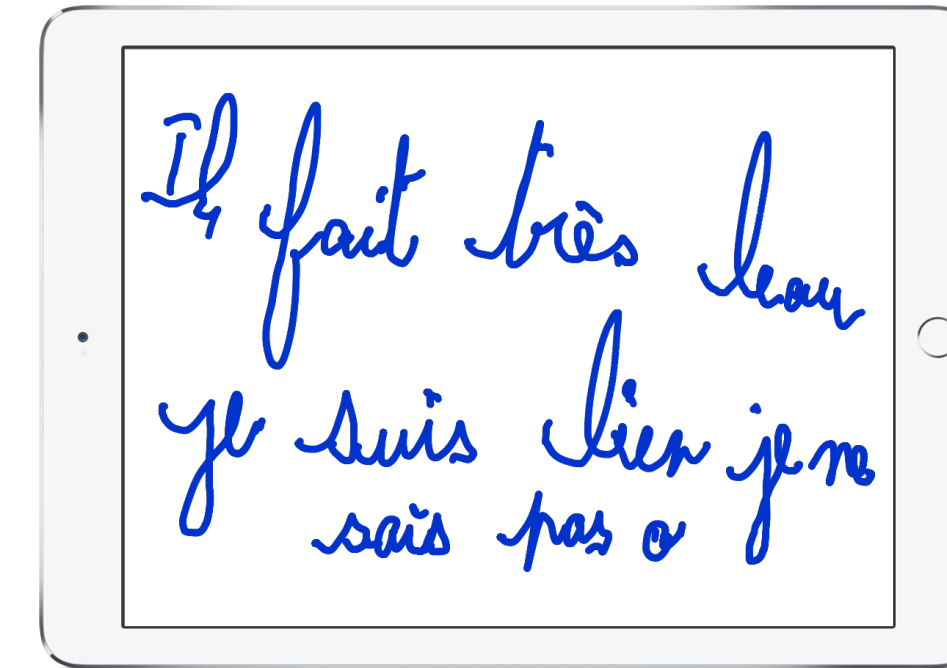
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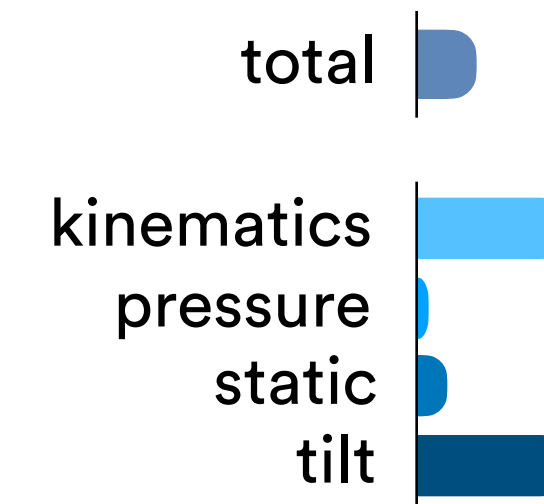
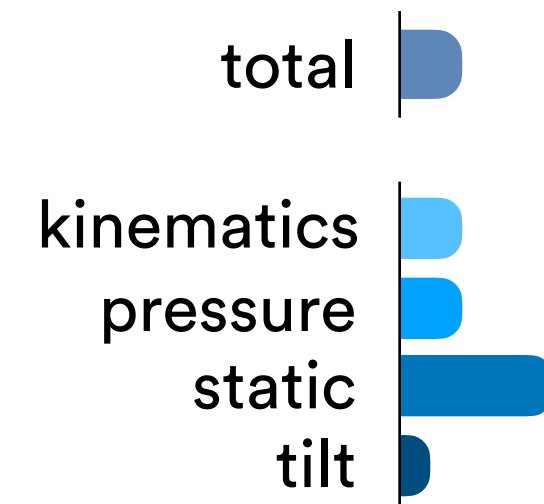
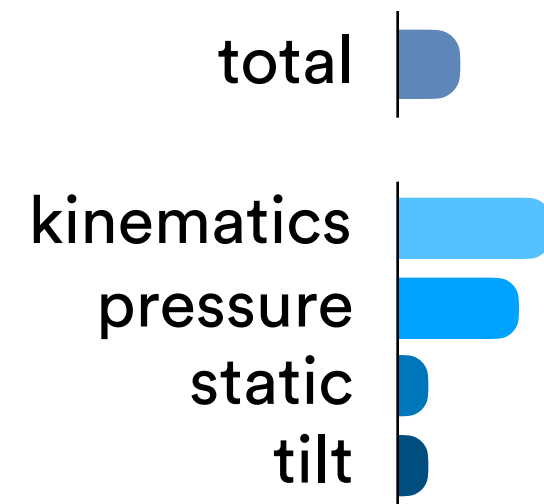
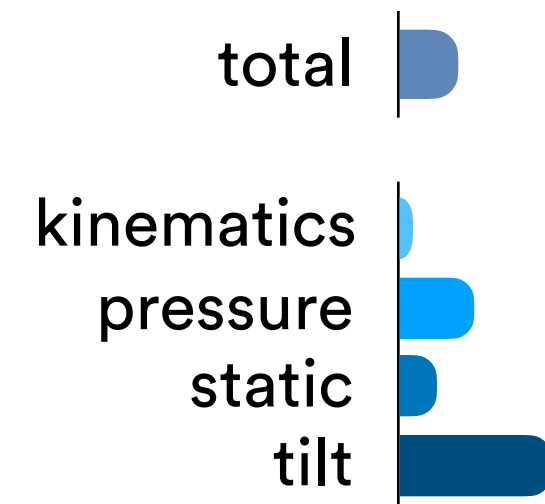
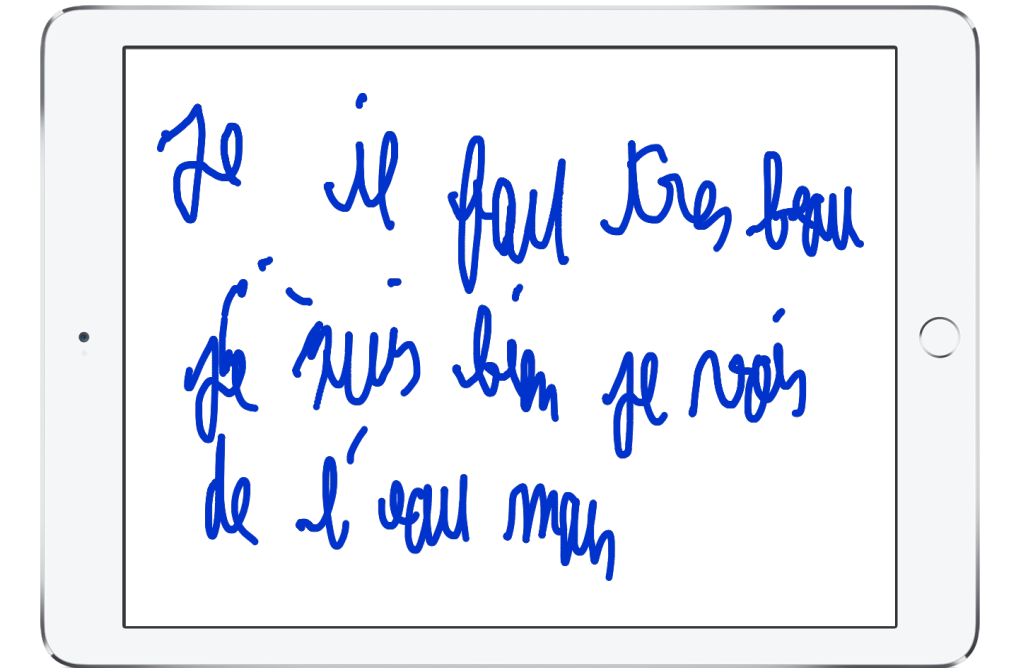
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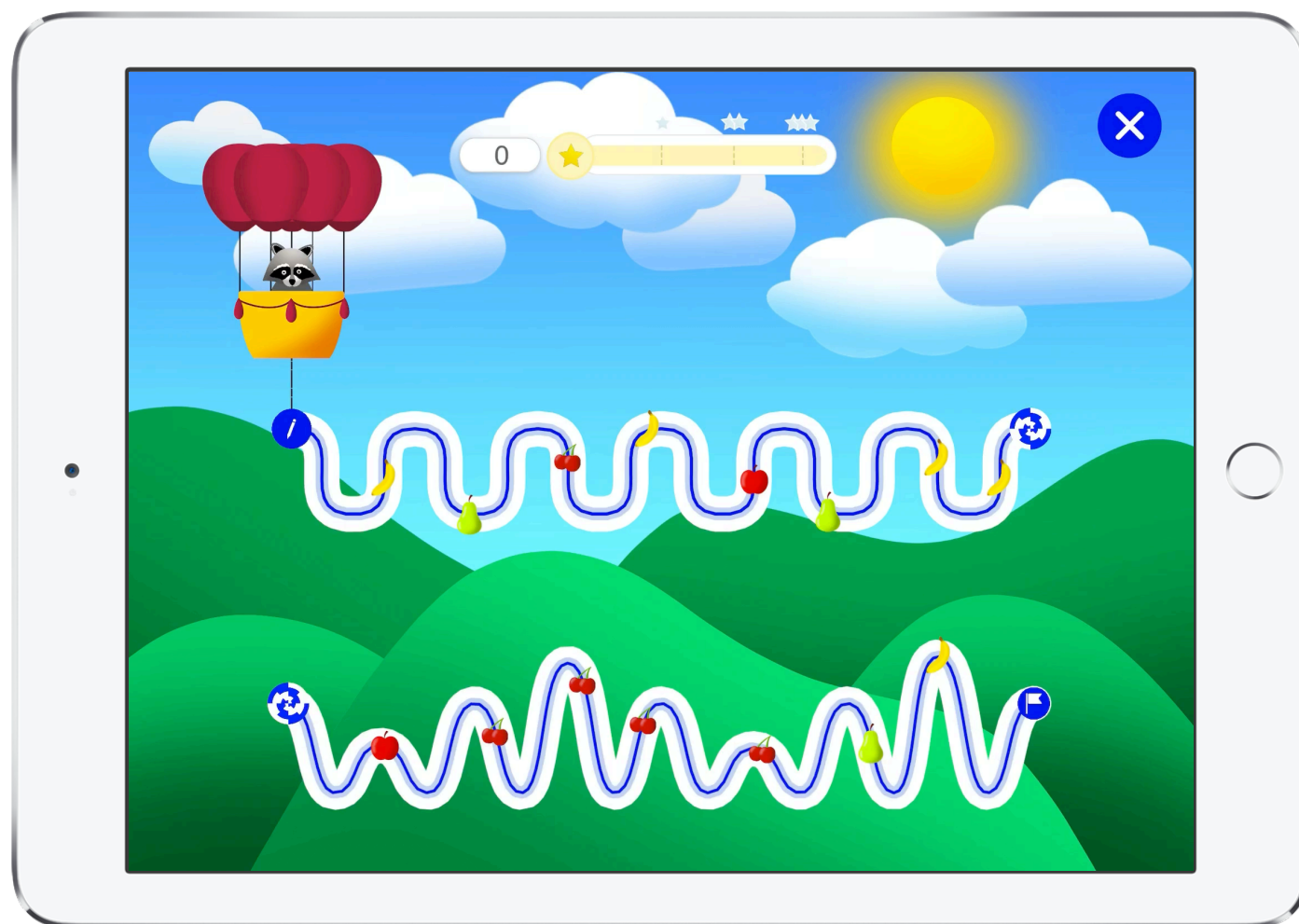


Stephanie, 7 y.o





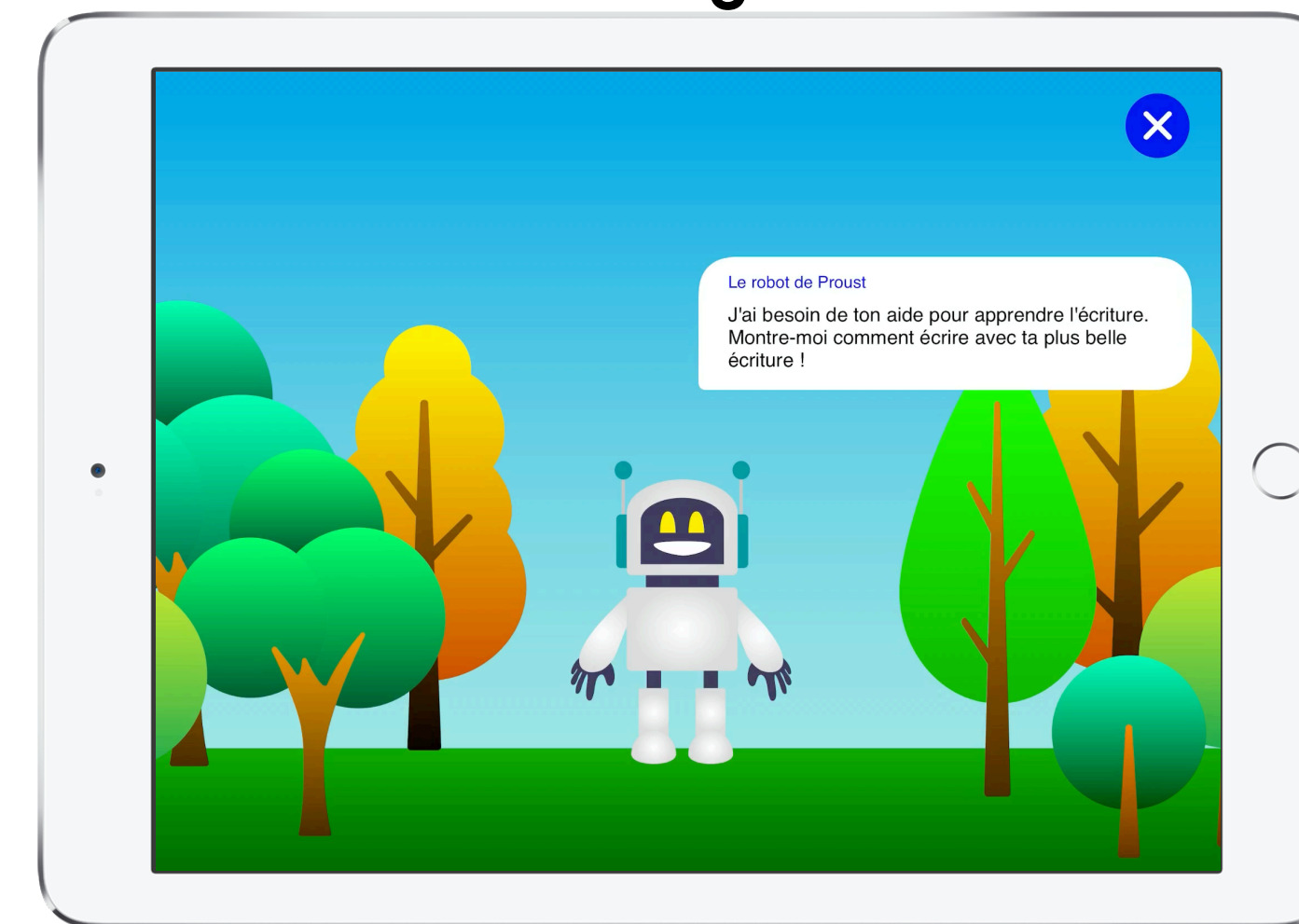
Fine motor skills



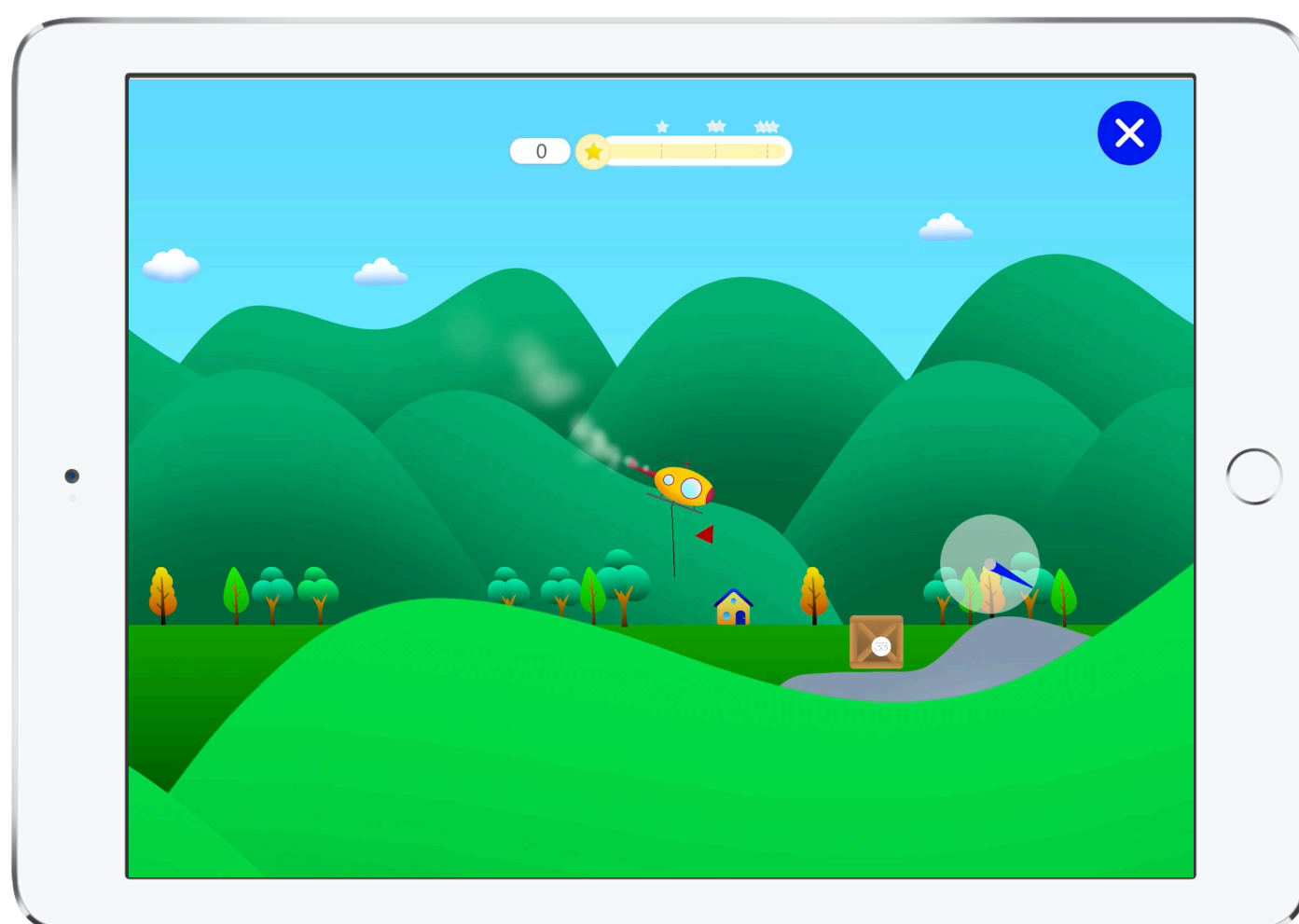
Control of the pressure



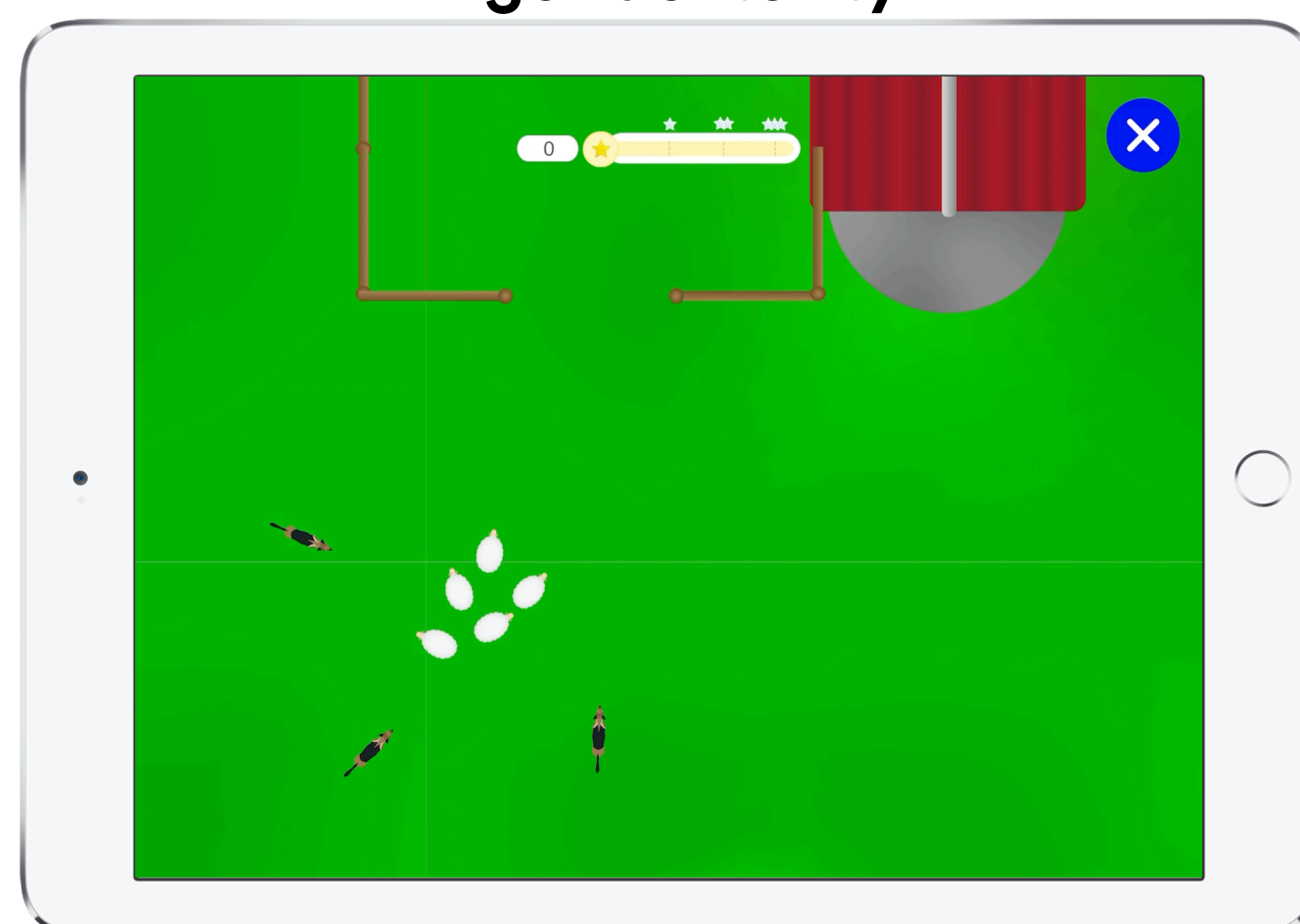
Handwriting automation



Control of the tilt

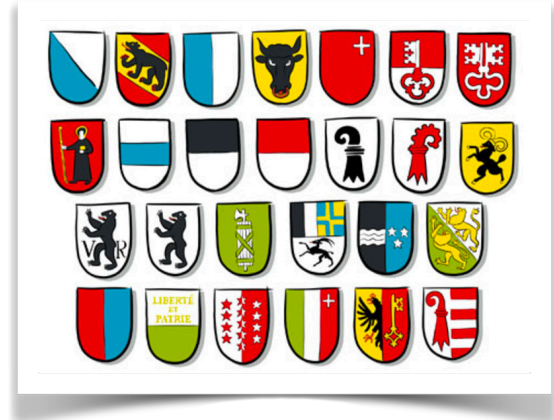


Finger dexterity



Letter shapes and pen lifts



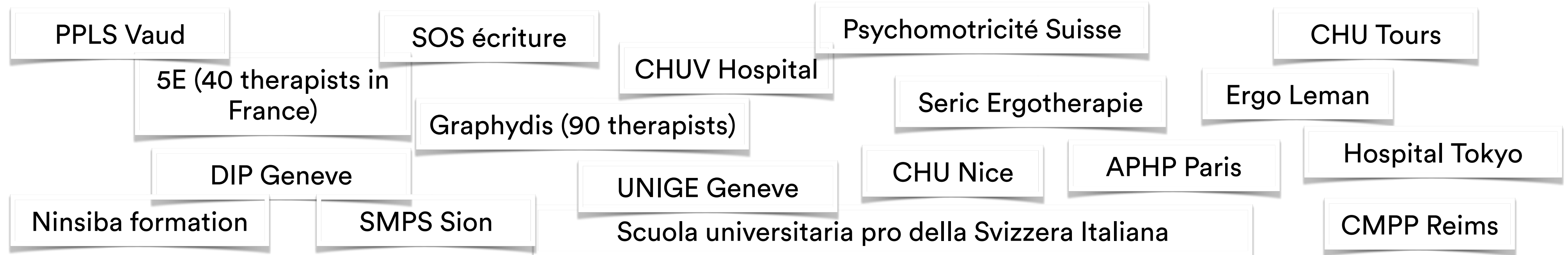
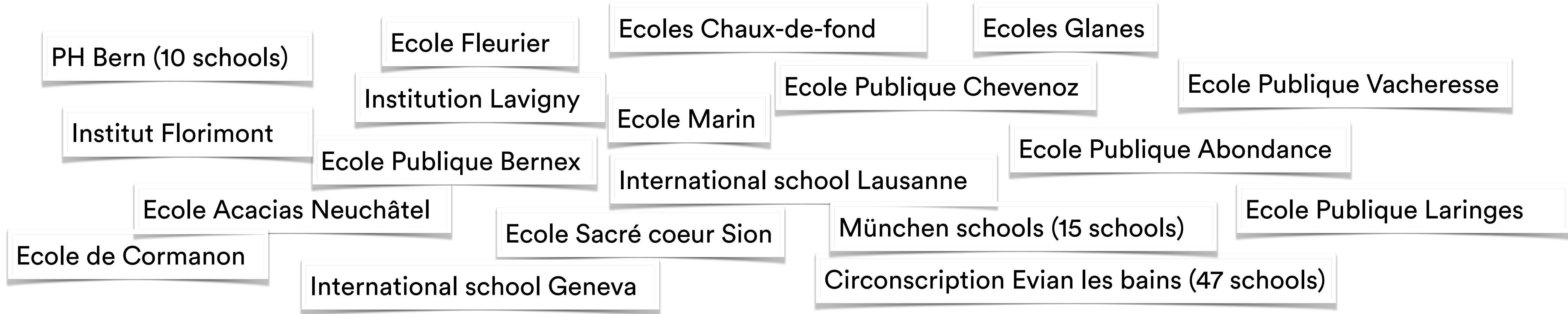


Canton de Vaud

Canton de Neuchâtel

Canton de Fribourg

Canton de Zoug





## If you want to test the application, you simply need

- An iPad with the Apple Pencil
- This link: <https://go.epfl.ch/dynamico-test> (lien a ouvrir dans un iPad)
- More info ([www.dynamico.ch](http://www.dynamico.ch))

Thank you for your attention



**689K** private therapists\*



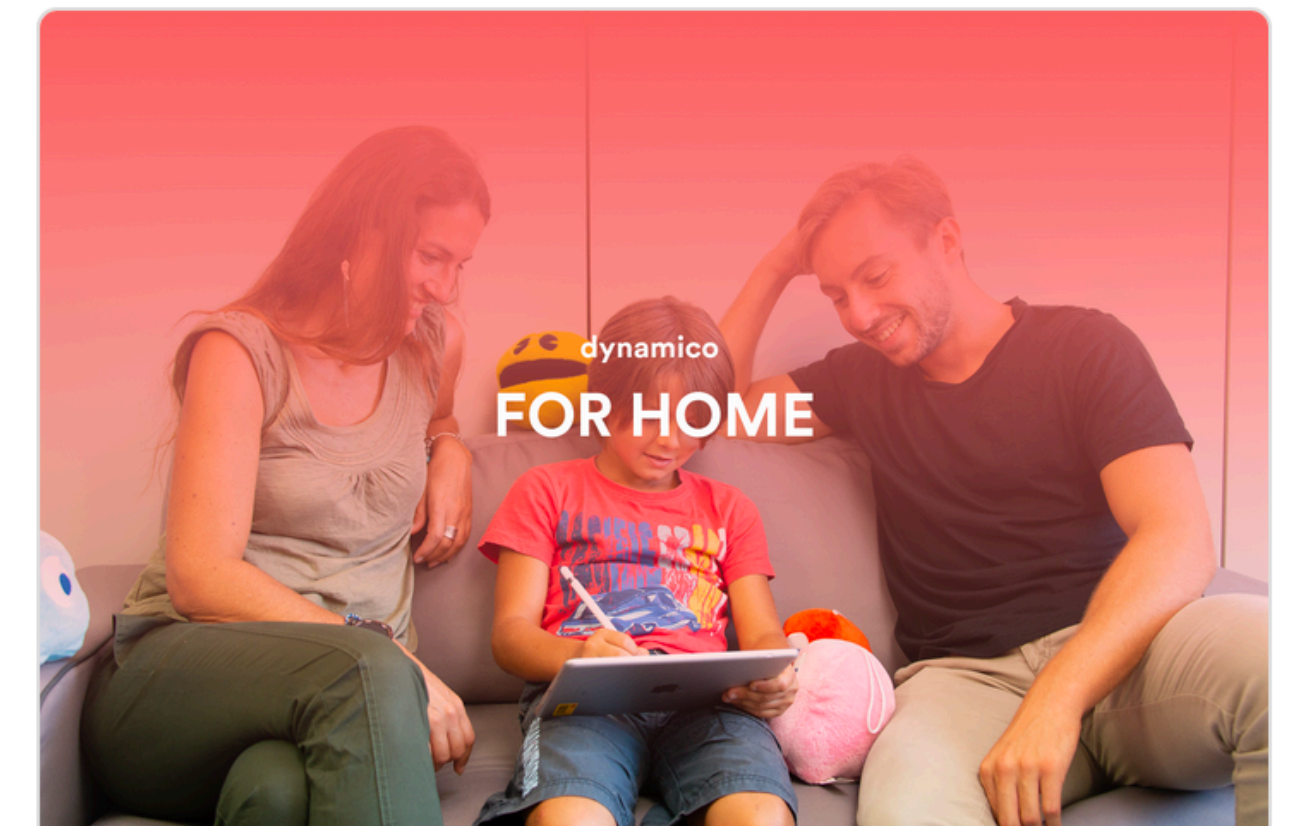
Save time and energy with our analysis system and find out things that couldn't be seen with a paper and a pen.

**2.6M** classes\*



Prepare lessons, let children work autonomously on their weaknesses and monitor your students' progression.

**53,5M** children in elementary school\*



Children can practice handwriting at home with adapted games to work on their specific weaknesses.