



Evidence-based Adaptive Learning

*“Helping teachers help every
student master K-12 core
knowledge”*

EFIA 2022

« IA pour l'enseignement »



AfIA

Association française
pour l'Intelligence Artificielle



**“If I had asked
people what
they wanted,
they would
have said
faster horses.”**

- Henry Ford

XX^e Education massification BUT...

25%

Youth unemployment
without a diploma

France, EEC study

75%

Of 15 year old students think that
 $2/5 > 1/2$

PISA 2019 – Pays de l'OCDE

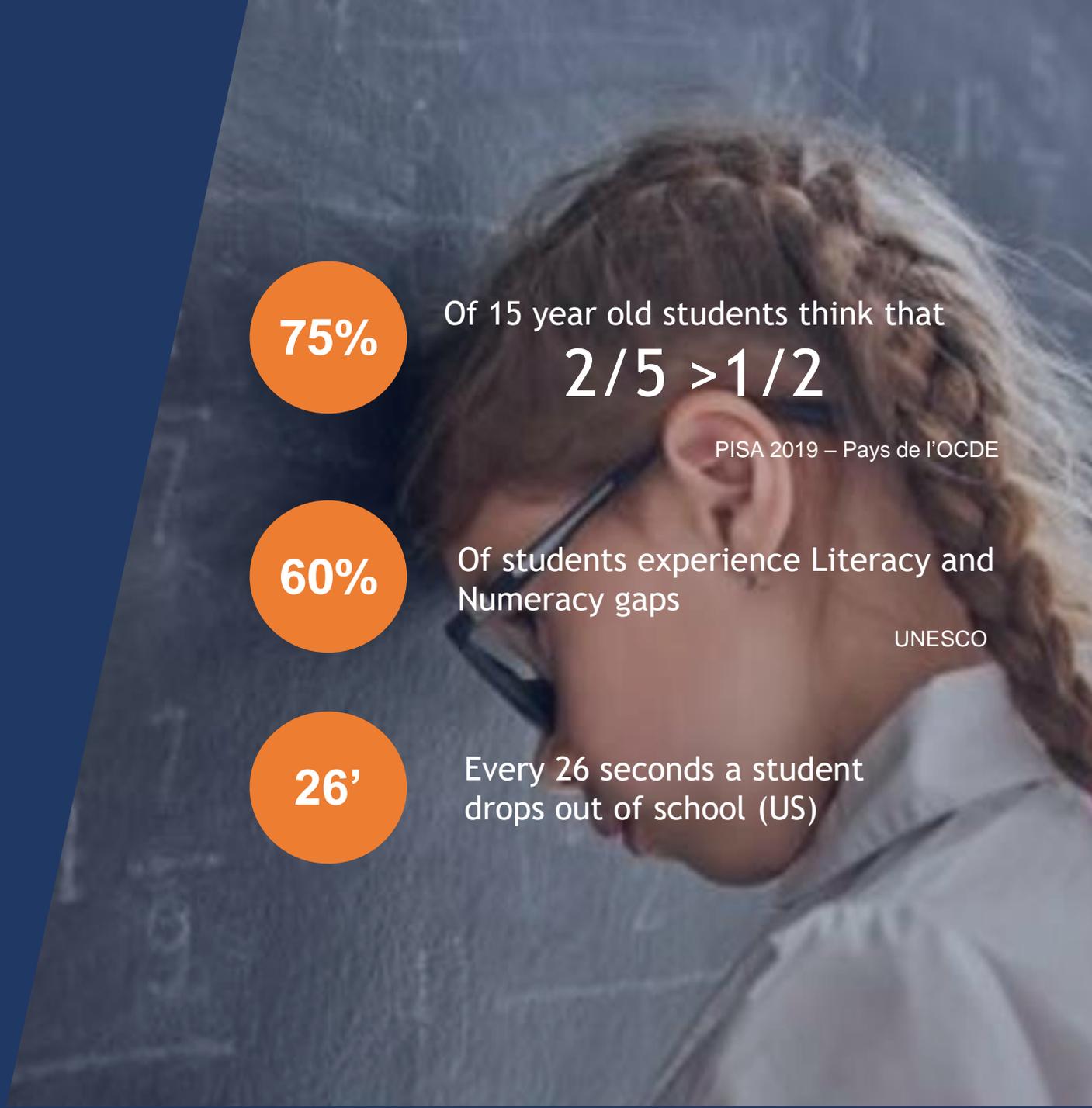
60%

Of students experience Literacy and
Numeracy gaps

UNESCO

26'

Every 26 seconds a student
drops out of school (US)

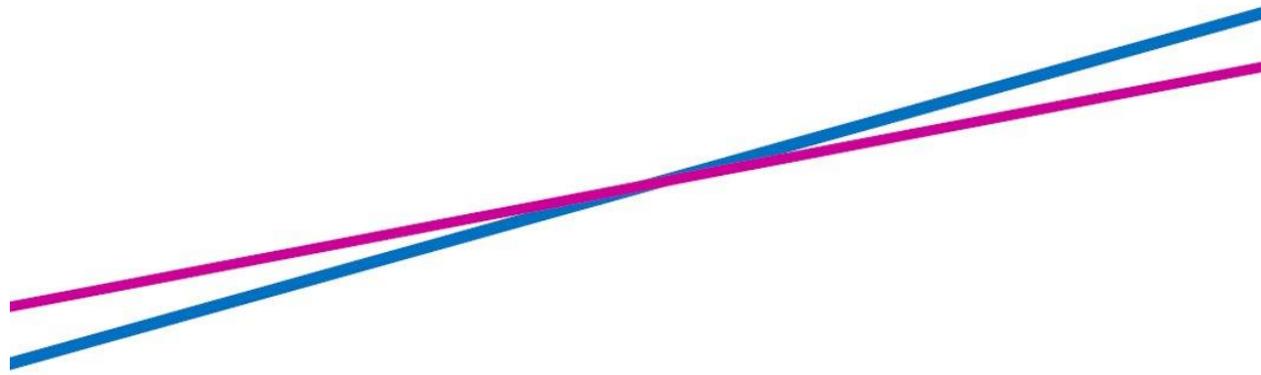




cnesco
conseil national
d'évaluation
du système scolaire



ENS
ENS DE LYON



CONFÉRENCE DE CONSENSUS

DIFFÉRENCIATION PÉDAGOGIQUE

COMMENT ADAPTER L'ENSEIGNEMENT
POUR LA RÉUSSITE DE TOUS LES ÉLÈVES ?

RECOMMANDATIONS DU JURY

Mars 2017

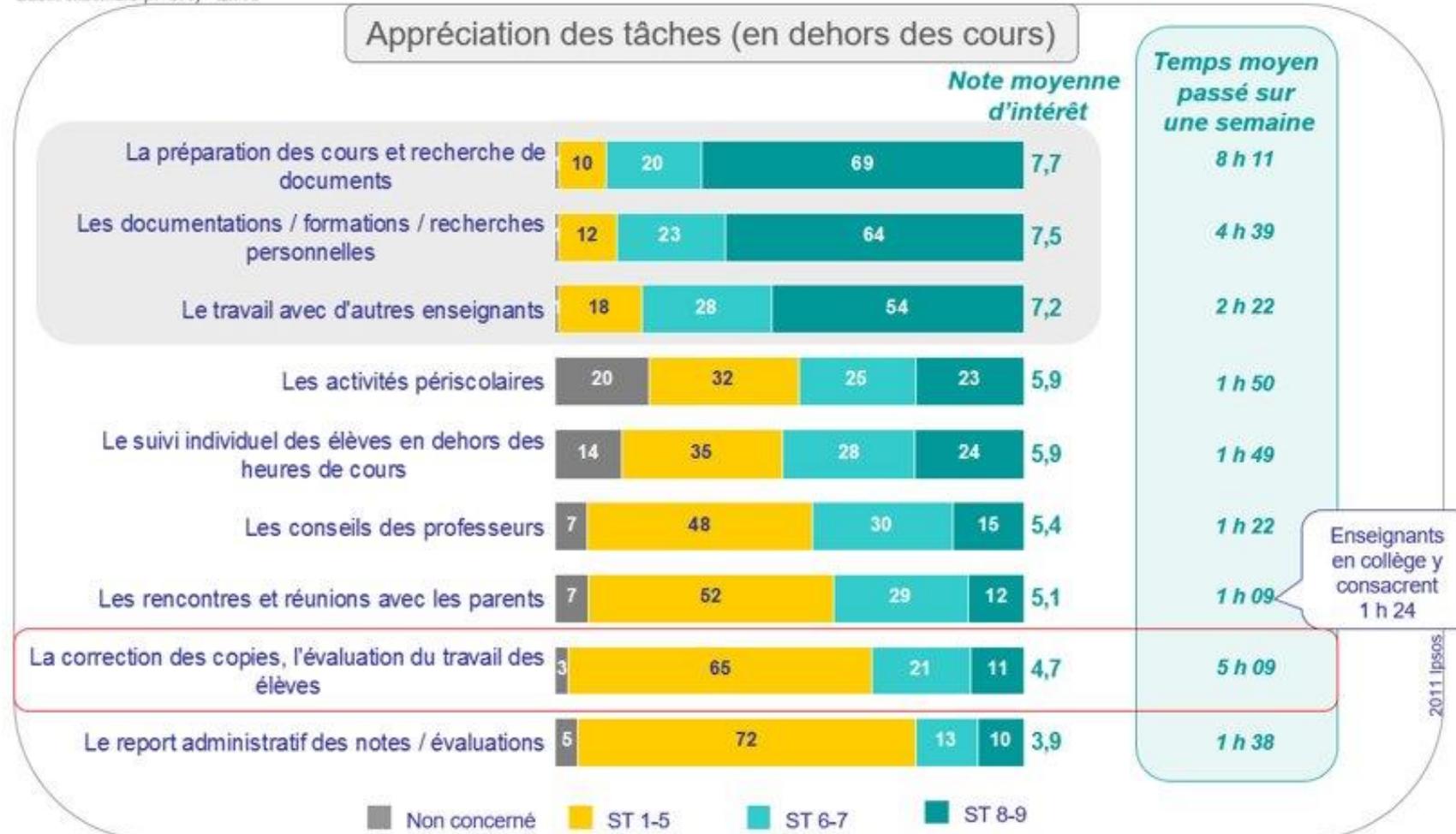


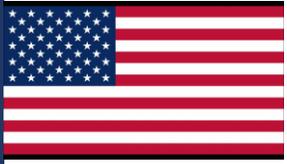
Les enseignants passent du temps sur les tâches qu'ils apprécient, exception faite pour la correction des copies

B1. Voici différentes activités que vous pouvez être amené à faire dans le cadre de votre métier d'enseignant, en dehors d'assurer les cours. Pour chacune d'elles, veuillez indiquer votre niveau d'intérêt en utilisant une échelle de 1 à 9. 9 signifie qu'il s'agit d'une activité que vous appréciez énormément de faire et 1 que vous n'appréciez pas du tout de faire.

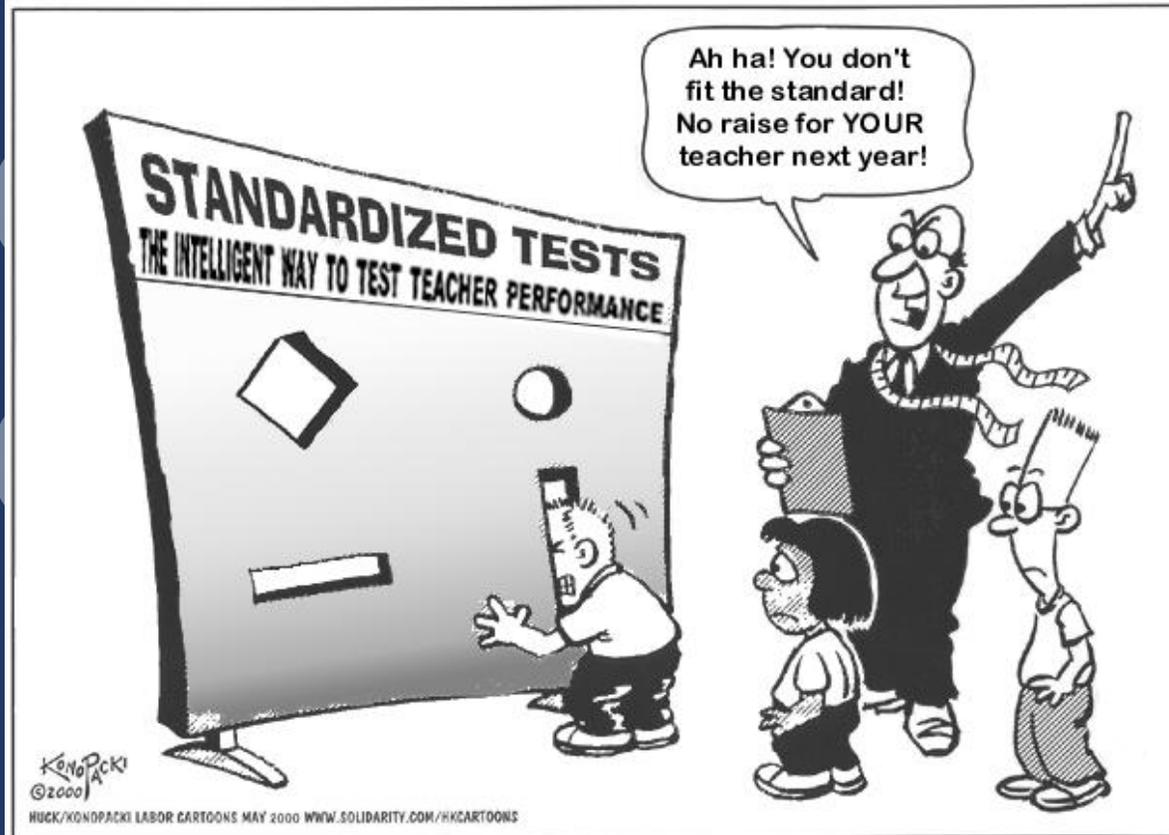
B2. Généralement, combien de temps consacrez-vous en moyenne à chacune des tâches suivantes sur une semaine?

Base: ensemble (n=670) - En %





AI in Education is not waiting for Europe



松鼠AI·智适应
Squirrel AI Learning

Human vs AI competition

<p>1 October 2017</p> <p>Squirrel AI robot outperformed human teachers by 9 point on average</p>	<p>2 April 2018 CHENGDU</p> <p>Squirrel AI robot outperformed the committee members of entrance examination for high school</p>	<p>3 June 2018 SHANDONG</p> <p>Squirrel AI robot outperformed 17 teachers. One teacher taught three students during the competition</p>	<p>4 Aug 27-28th, 2018 100+ Chinese cities</p> <p>Students taught by the Yixue Squirrel AI teacher achieved higher learning efficiency</p> <p>5.4 AI Teacher 0.7 Human Teacher</p>
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3 Pillars for Evidence-Based Learning



and



and



Cognitive
Science

Artificial
Intelligence

Learning
interfaces
& UX



Institut | Nicod

CNRS-EHESS-ENS



EDUCATION • RESEARCH • EDTECH



Research and Evidence are in our DNA

Our adaptive learning technology is **evidence-based**, drawing on research across 3 fields:



“Research broadens the understanding we have of knowledge acquisition and pinpoints blocks or learning gaps to help teachers ensure student core knowledge mastery.”



Roberto Casati



Pascal Amsili



Kristen Weatherby



Jean-Marc Labat



Emmanuel Sander



Andre Knops



Daniel Andler



Pierre-Yves Oudeyer

Strong Research Partnerships



AI against drop out

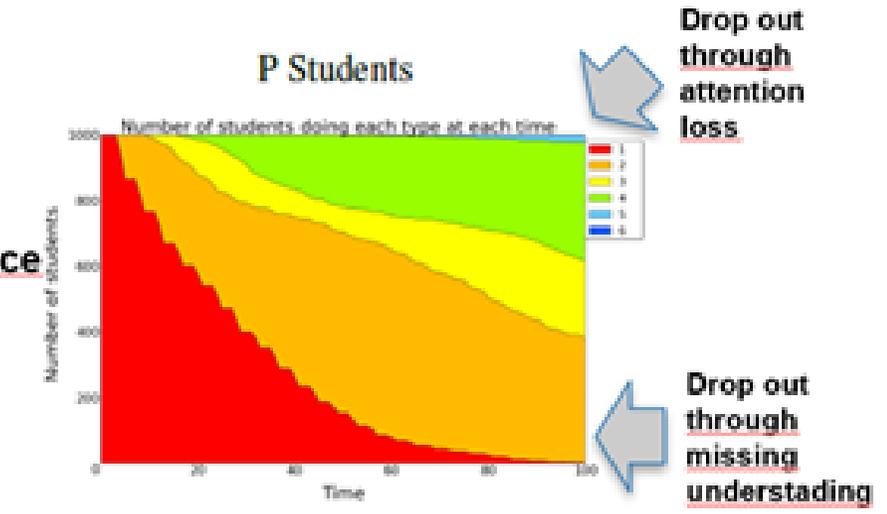
Efficiency of the multi-armed bandit algorithm through personalization of exercises

Multi-Armed Bandits for Intelligent Tutoring Systems

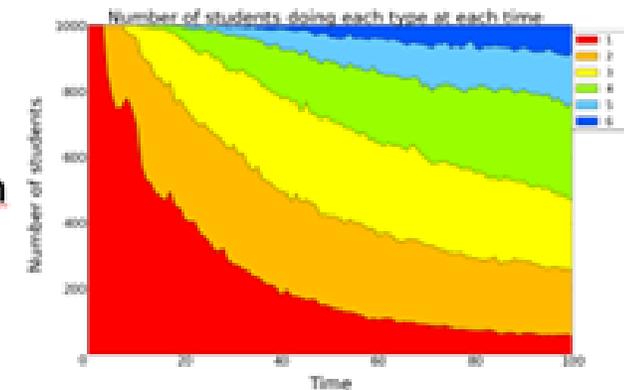
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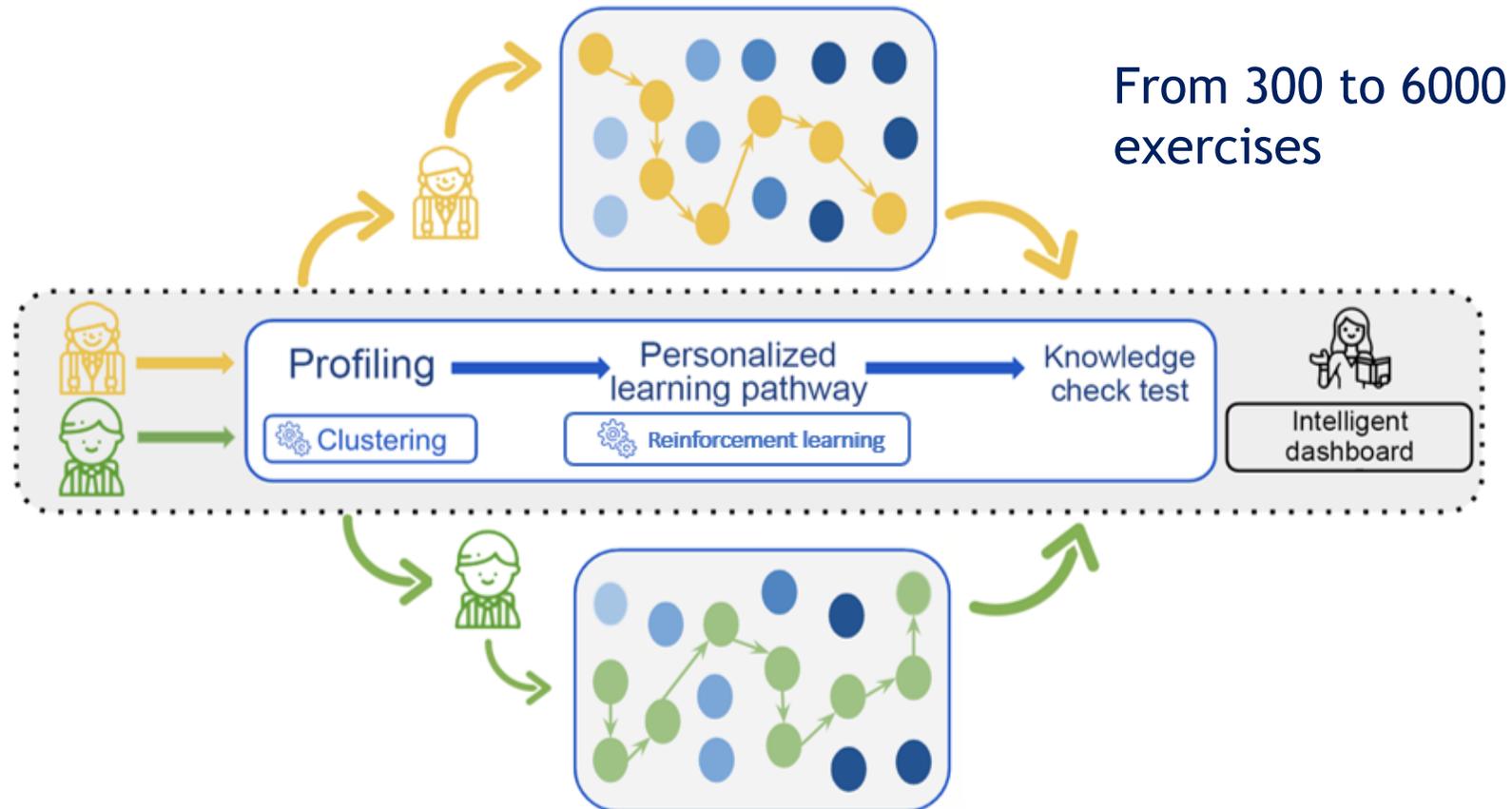
Expert Sequence
(teacher only)



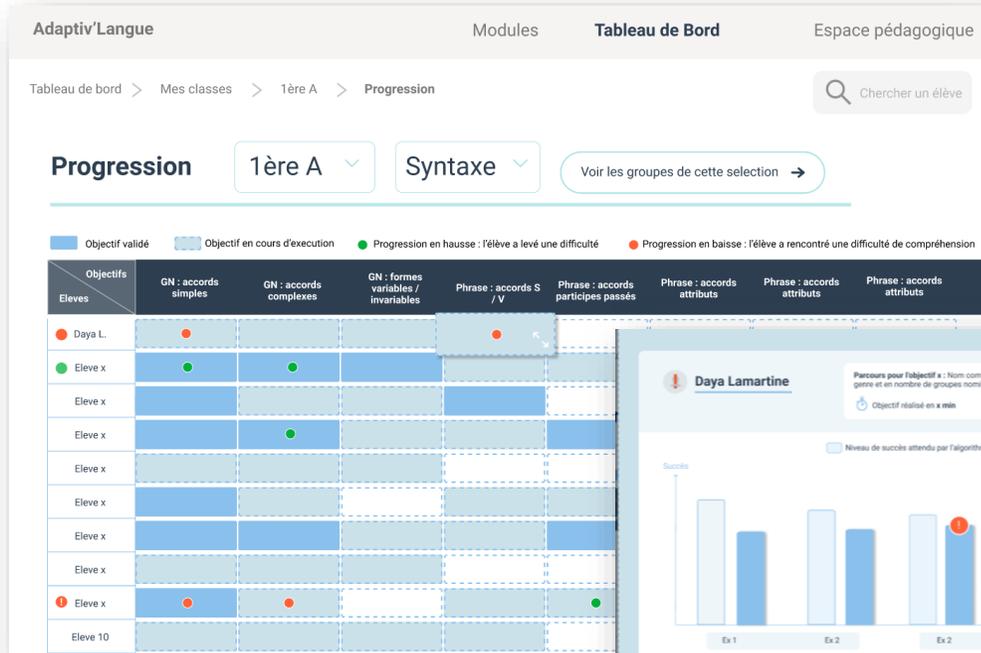
Sequence
WITH algorithm



Our product : Artificial Intelligence and Personalisation

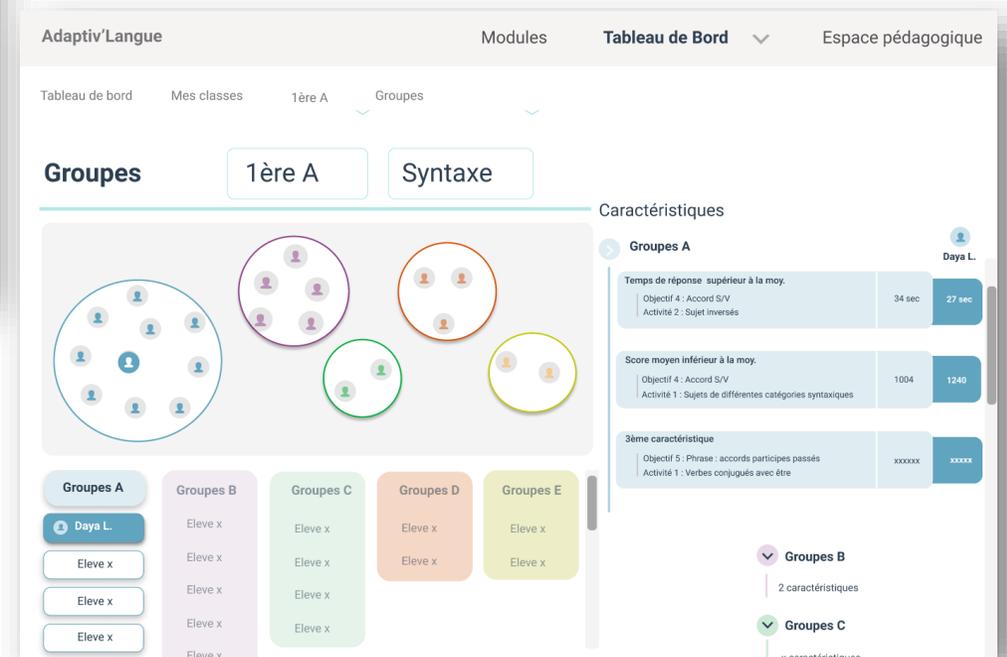


Intelligent dashboards to support differentiation



Progression with :

- An overview of progress
- Indicators of progress and difficulties of personalised pathways
- Details of progress and difficulties per pupil

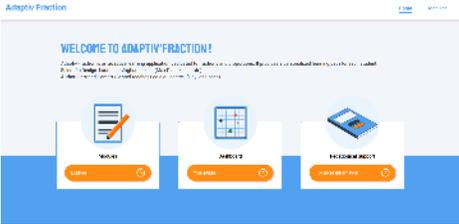


Groups of students with similar profiles :

- A view of the class groups
- Groups characteristics
- Individual student details within the group

Planned Catalogue of 5 Fundamental Domains

Adaptiv'Math



1. Number Sense
2. Fractions & Proportions
3. Arithmetic Problem Solving
4. Problem Solving (quantities and measures)
5. Space Orientation and Geometry

9000 exercises

Adaptiv'Langue



1. Syntax (Level 1&2)
2. Spelling (Level 1&2)
3. Lexicon (Level 1&2)
4. Verb (Level 1&2)
5. Logic
6. Coherence of written and oral text

6000 exercises

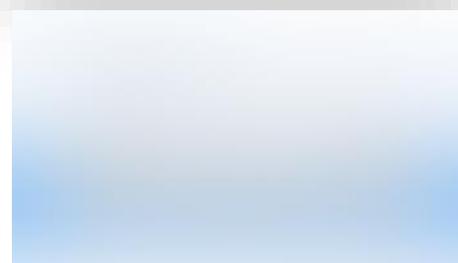
Adaptiv'Latin Adaptiv'English...



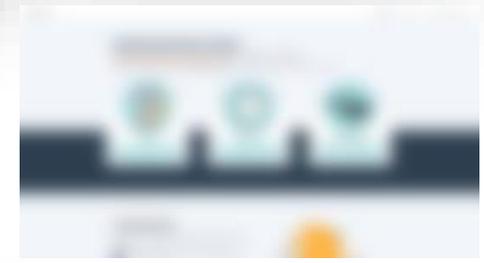
1. The case system
2. Vocabulary of declinable words
3. Vocabulary of verbs
4. Sentence structures
5. Understanding without translating

3000 exercises

Adaptiv'Science



Adaptiv'Geo Adaptiv'History



Coming Soon

6. Figures and solids
7. Algebra
8. Algorithms/coding

7. Reading fluency
8. Production of texts
9. Pragmatic/Context

6. Approach to speaking

Delivery of 19 modules covering 3 domains

Adaptiv'Fraction

Home Modules

WELCOME TO ADAPTIV'FRACTION !

Adaptiv'Fraction is an adaptive learning application dedicated to fractions and proportions. It provides a personalized learning path for each student.
 Scientific Design: Laurienne Vagharshakian (Max Planck Institute)
 Author: Bertrand Pomart (School teacher, École du centre, LH9-les Roses)





Modules

Explore



Dashboard

Your pupils



Pedagogical Support

For more information

Adaptiv'Langue

Accueil

BIENVENUE DANS ADAPTIV'LANGUE !

[VERSION DÉMO POUR CONSULTATION DES CONTENUS DESTINÉS AU LYCÉE GÉNÉRAL ET TECHNOLOGIQUE]
 NOUVEAUX CONTENUS POUR LE LYCÉE PROFESSIONNEL, 21 JUIN
 Adaptiv'Langue est une application dédiée à la maîtrise de la langue qui propose à chaque élève un parcours d'exercices adaptatif.





Modules

Continuer



Tableau de bord

Voir élèves



Espace pédagogique

Pour en savoir plus

UNE RESSOURCE INNOVANTE

Adaptiv'Langue propose aux élèves de développer leur pratique de la langue à travers :

- Des parcours d'activités de difficulté progressive qui s'adaptent à leur

ATTICUS

Home Moduli Pannello di controllo Spazio didattico

BENVENUTI SU ATTICUS!

ATTICUS è una piattaforma digitale che aiuta gli studenti a personalizzare lo studio del latino.

La progressione cognitiva è stata elaborata da **Gerda Melnik-Leroy**, dottore di ricerca in scienze cognitive, e gli esercizi sono stati creati da **Gian Matteo Corrias**, dottore di ricerca in filologia umanistica e professore di materie letterarie nei licei. La revisione della piattaforma è stata curata da **Maria Pia Cluffarella**, docente di materie letterarie nei licei, e **Silvia Cecutti**, classicista e traduttrice.






Moduli

Inizia



Pannello di controllo

Per saperne di più



Spazio didattico

Per saperne di più

Adaptiv'MATH

Accueil Module

BIENVENUE DANS ADAPTIV'MATH !

Adaptiv'Math est une application dédiée à l'apprentissage et à l'enseignement des mathématiques en cycle 2, qui propose à chaque élève un parcours d'exercices adaptatif (remédiation et consolidation).

Conception du module 1 : André Knops, chercheur en psychologie du développement et neurosciences cognitives (ONIR, Université Paris-Descartes) ;
 Conception des modules 3 et 4 : Emmanuel Sander, chercheur en sciences cognitives (Université de Genève)
 Conception du module 2 : Olivier le Dantec, formateur en mathématiques (INSPF de Nice)






Modules

Continuer



Tableau de bord

Voir élèves



Espace pédagogique

Pour en savoir plus

Continuous pilotes & experimentations with teachers



Adaptiv'Langue 2020-2021

Innov'up Expérimentation Intelligence Artificielle (IA) & Education



Erasmus+

Artificial Intelligence Methodology for education

Student Activities - Scores (> 0,7/1)



O4/Estimate a chance in a draw:
Class A: **0.85/1 – 2068ex**
Class B: **0.93/1 – 3917ex**

O1/ Analyse a proportion in relation to half:
Class A: **0.82/1 – 1275 ex**
Class B: **0.88/1 – 1109 ex**

O2/ Recognise a proportion:
Excellent results in both classes on Activities 1-6, 8 (> 0,86/1)
Class A: **0.86/1**
Class B: **0.87/1**

O3/ Identify proportions on a number line:
Class A: **0.72/1 – 2155 ex**
Class B: **0.77/1 – 2732 ex**

Student	Obj 1	Obj 2	Obj 3	Obj 4	Obj 5	Obj 6	Obj 7	Obj 8	Obj 9	Obj 10
Student 01										
Student 02										
Student 03										
Student 04										
Student 05										
Student 06										
Student 07										
Student 08										
Student 09										
Student 10										
Student 11										
Student 12										
Student 13										
Student 14										
Student 15										
Student 16										
Student 17										
Student 18										
Student 19										
Student 20										
Student 21										
Student 22										
Student 23										
Student 24										
Student 25										
Student 26										



COMMERCIAL IN CONFIDENCE

ELLA, lauréat du projet EDLAB

Le projet EdLab : un dispositif d'accompagnement à l'expérimentation d'innovation numérique pour l'éducation et la formation
Projet initié par le Conseil Régional Nouvelle-Aquitaine, Grand Poitiers et sa Technopole, le SPN et Réseau Canopé.



EvidenceB team

Expertise & Diversity

Deep expertise and solid track records in international education and Edtech sectors



THIERRY DE VULPILLIÈRES
CEO et co-founder
 15 years in educational publishing and 12 years at Microsoft (director of Educational Partnerships, International Program).



CATHERINE DE VULPILLIÈRES
Chief Innovation Officer and Co-founder
 ENS, former literature teacher in CPGE khâgne, member of the modern literature agregation jury.



DIDIER PLASSE
Chief Strategic Officer and Co-founder
 Co-founder and President of Immostreet, Kidscode and Solarneo. Other experiences include: OC&C Strategy Consultants, management positions in the US, UK, Spain and Argentina.



PHILIPPE MERO
VP Business Development and Strategic Partnerships
 20 years of experience in education and digital education consulting.



ERIC GROISE
CTO
 20 years of experience in Product, Architecture, Software development



FATIMA HARRAK
Data Scientist
 AI Research Engineer in Learning Analytics, Data Mining for Education, MOCAH, LiP6, Sorbonne University PHD



JILL CAIRNS
CMO – Marketing Director
 15 years in international educational publishing at Hachette Livre France / International.



EvidenceB : research transfer

1. Deployment in K12 in diversity of subjects (literacy, numeracy, science...) & age
=> **happy to share data for various research projects**
2. Ressources design with research Labs and researchers => ability to answer National, European, International call for proposal (*BRNE, P2IA, Erasmus, Singapore EDB...*)
3. Open to pilot & experimentation => P2IA / Paul Valery AI campus / Singapore schools / Lycées Académie de Poitiers...
lesson learned : **AI transparency against black box**
4. ***Evidence based*** on 2 levels => transfer & post AB test... (Geneve University & Adaptiv'math)
5. EvidenceB open positions for internship, apprentice, Cifre, postdoc, CDI...



Happy New Year from everyone at
EvidenceB. We hope 2022 will be filled with
joy and success !



Thierry de Vulpillières, CEO, thierry-d@evidenceB.com





evidenceB.com



contact@evidenceB.com



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linkedin.com/company/evidenceb-inside



[EvidenceB](https://www.youtube.com/EvidenceB)