EVOLUTION OF EDTECH BUSINESS MODELS

Prospective monitoring
September 2025

Definition of Edtech:

The acronym EdTech is short for Educational Technology. **EdTech represents the use of new technologies to facilitate and improve knowledge learning and transmission.**

For example, e-learning provides individual digital teaching as an alternative to physical attendance. These "classrooms" and MOOCs (Massive Open Online Courses) are lectures broadcast on the Internet. The LMS (Learning Management System) makes it possible to distribute educational content online, including courses. There are also educational robots that capture the attention of young people and support them in their learning.

EdTech provides tailor-made and on-demand services. It revolutionizes teaching, making it possible to **design a personalized learning path for students.**

Teachers and schools in general also benefit from these technologies, which facilitate the sharing of knowledge in collaboration with their students through participatory and pedagogical teaching. In addition, they use these technologies as **online platforms to better organize, control and monitor learning and adapt their teachings to students**. This allows them to provide more relevant and effective services.

Overall, Edtech benefits students and teachers as well as schools by **facilitating administration and communication**. They improve dialogue, education, learning and above all pedagogy.

DISCOVER MONITORING METHODOLOGY

Prospective monitoring - Definition

Overview

Prospective monitoring consists of collecting strategic information in order to anticipate changes in the ecosystem and respond as quickly and appropriately as possible. This provides support for the implementation of a commercial and technological strategy.

Methodology

An effective method involves regular monitoring and service developments monitoring.
The below steps were taken to carry out the monitoring and illustrate the results:

- Research, analysis and comparison of a dozen innovative offers in the field of Edtech.
- Identification and understanding of the commercial and technological benefits of these results.
- Identification of Edtech trends and innovations. Trends represent market characteristics and developments.

Objectives

For a company or educational institution to compete sustainably it needs to be constantly aware of changes in its market, to either limit potential risks or benefit from these changes. This would involve the following:

- Monitor competitive products and service developments.
- Identify and distinguish innovative trends and strategies over the long term.
- Analyze and compare this information with the organization's current strategy.
- Evaluate competition and their business strategies through their innovations.
- Carry out a self-evaluation and develop a strategy.
- Find inspiration in business and technological trends.

DISCOVER OUR EDTECH TRENDS ANALYSIS

Edtech trend analysis

Key technological trends

Represent **opportunities or threats** for the various players in the sector

- Gamification
- Intelligence Artificielle (AI)
- Big Data
- Virtual Reality (VR)

Report release
2025 State EdTech Trends Report

The 2025 State EdTech Trends report, developed in collaboration with Whiteboard Advisors, presents the views of education technology directors, IT directors, state officials, and other leaders. AI is ranked as both the top priority and the top initiative in education technology.

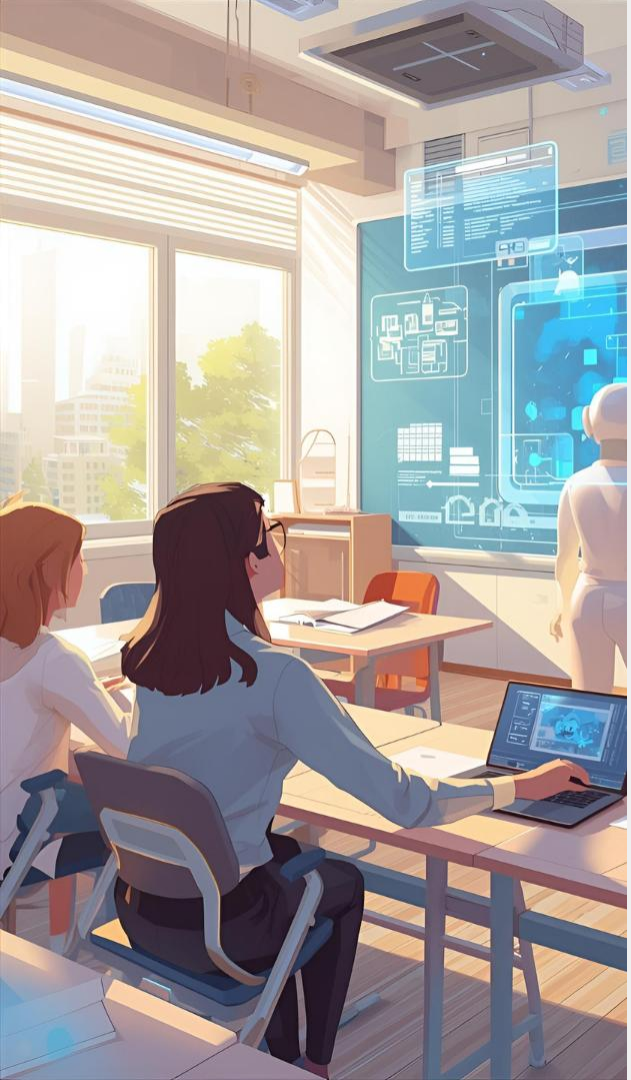
Notable developments

*German EdTech startup Knowunity raises **EUR 27 million (CHF 25.22 million)** to offer AI tutoring to 1 billion students.*

*Opennote, a start-up specializing in educational technology, has raised **USD 850,000 (CHF 675,000)** for its personalized learning platform for undergraduate students.*

*Yourway Learning has secured **USD 9 million (CHF 7.15 million)** in funding to develop its artificial intelligence system specifically designed for primary and secondary education.*

*Galaxy Education (GE), a Vietnamese company specializing in educational technology, has secured financing of nearly **USD 10 million (CHF 7.95 million).***



Preparing students for technological challenges

A previous report discussed the various developments in artificial intelligence, confirming that its adoption is accelerating. The aim of this new report is to provide a forward-looking analysis of potential developments in the education sector.

Background

Background

The current situation is paradoxical: **digital technology is now so deeply integrated into our societies that almost the entire population owns a smartphone in 2025.** At the end of March 2025, nearly 95% of people aged 14 and over were using the internet. The study also highlights the devices preferred by Swiss people to connect to the internet: smartphones dominate, with 94.7% of internet users using them. This phenomenon is all the more impressive given that this technology is less than 20 years old, with its rise dating back to the arrival of the first iPhone in 2007.

However, this revolution is not without its drawbacks. Smartphones, and digital technology in general, **have become so deeply ingrained in our habits that it seems difficult to go back:** whether it's finding your way around without GPS, listening to music, or browsing social media. One figure illustrates this dependence well: according to a survey published by Comparis, nearly half of the Swiss population shows “clear to pronounced” signs of smartphone addiction, while only 23% of participants say they have no difficulty being without them. As many articles point out, this trend is even more pronounced among young people.

In contrast, a large number of schools in Switzerland have chosen to ban smartphones from classrooms. This ban addresses several concerns: limiting bullying, **reducing addiction, improving student concentration, and preventing the easy pursuit of instant gratification.** The cybersecurity barometer published by the insurer AXA on August 12 is clear: 81% of the Swiss population is in favor of banning mobile phones in schools.

This creates a complex situation: **students are deprived of smartphones at school, even though they live in an increasingly digitalized environment.**

Soft skills

Today, thanks to artificial intelligence, it is possible to perform complex analyses, write clear and well-formulated emails, or even write code with little expertise. **We are seeing that technical skills, commonly referred to as hard skills, are becoming much more accessible to a wider audience.** Take programming, for example: even though understanding the logic and structure of a script remains essential, today's tools make creating new code simpler and often more efficient. This example illustrates a broader trend found in many technical professions: some tasks that were once complex are now easier, or even automated.

This naturally raises the question: in the field of education, with the advent of these recent technologies**, how important is learning really?** If information can be obtained or code generated in a matter of seconds, how should teaching evolve?

It should be remembered that learning is not just about producing a result, **but also about structuring thought, developing the ability to argue and cultivating a critical mind.** Education does not just train people to follow orders, but individuals capable of understanding, analyzing and making relevant decisions. Beyond hard skills, **soft skills are becoming increasingly important.** It is highly likely that, as automation reduces the exclusivity of technical skills, **interpersonal skills will become more important.** We are already seeing this in the professional world: many companies favor graduates from prestigious universities not only for their technical skills, but also for specific abilities such as clear communication, critical thinking, creativity, leadership skills, and the richness of their networks.

Recent statistics confirm this trend: more than 90% of recruiters believe that soft skills are as important as, if not more important than, technical skills. Some studies (LinkedIn, WEF) even go so far as to claim that 70 to 75% of professional success now depends on soft skills.

One of the main objectives of educational institutions is to improve the employability of their students. With this in mind, **it is only natural that soft skills are becoming increasingly central to education.** However, they are still rarely assessed systematically. We can therefore anticipate changes in school and university curricula in the coming years, with more emphasis placed on the assessment and development of cross-disciplinary skills: communication, collaboration, critical thinking, adaptability, and creativity.

In summary, the advent of new technologies is upsetting the balance: technical skills (hard skills) are becoming more accessible, while human skills (soft skills) are gaining in value. Beyond this observation, **this transformation requires a new vision of education,** accompanied by profound changes in teaching methods. Such a change requires strong commitment from educational institutions, but also institutional support, with clear guidelines from the government to accompany and reinforce these initiatives. The changes ahead are therefore likely to be significant and exciting, **marking a decisive step in the evolution of the world of education.**

VirtualSpeech : Speak, Shine, Succeed

VirtualSpeech is a training platform that uses virtual reality to develop key skills such as public speaking and communication.

Type
Training platform.

Competitive advantage
The solution allows users to practice speaking in different contexts in a secure environment, without any real pressure. The use of artificial intelligence allows users to practice with adaptive responses.

Price
For individual pricing, the price is USD 45 per month (CHF 35.8) or USD 399 for a one-year subscription (CHF 318). The tool does not include the purchase of a VR headset, so this equipment must be purchased separately if you want to use all of the features. For schools and businesses, the price is indicated on the quote.

Number of users
The platform claims to have more than 550,000 users in over 130 countries.

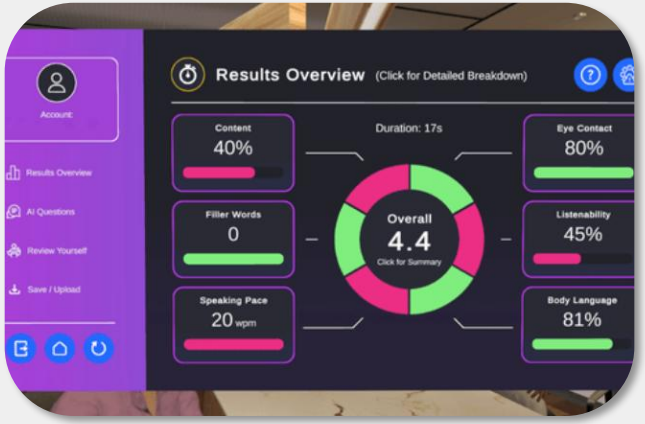
Level of development
VirtualSpeech was founded in the United Kingdom in 2016 as a way to practice public speaking in a more realistic way. Since then, the company has been featured in numerous media outlets such as the New York Times, WSJ, VentureBeat, Huffington Post, Forbes, etc. It has also won several awards including Start-Up Learning Provider of the Year 2019, VR Awards, etc. According to its LinkedIn page, the company has 20 employees, which seems relatively small given the number of users.

How does it work?
The platform offers several modules corresponding to real-life situations, such as a job interview, a presentation, or even a conversation in a café. Thanks to artificial intelligence and the use of a virtual reality headset, the environment and dialogues are simulated to help learners reduce the stress associated with speaking in public.

Link https://virtualspeech.com/

Features:

- The solution **offers exercises with or without a virtual reality headset.** However, without using one, it loses much of its appeal.
- **There are more than 25 training topics,** not including the professional ones available. It offers a “Roleplay Studio” module, which allows users to create their own role-playing games in less than five minutes using code-free creation tools. It is also possible to go further and request the **development of a specific situation.**
- Artificial intelligence generates fluid conversations, but **above all questions and answers based on the conversation** and not just pre-recorded phrases.
- VirtualSpeech offers the possibility **to communicate in 16 languages.**
- After completing a module, **learners and teachers are provided with a summary in the form of a dashboard** containing unique data captured from virtual reality and online exercises. This report highlights areas for improvement as well as progress over time. **The assessment includes both verbal and nonverbal components.**
- Beyond this dashboard, teachers can receive audio **recordings of student performances** to provide individualized, personalized assessment or feedback.
- The solution **is compatible with several VR headsets,** as well as various LMSs and APIs.



Kindergarten ★★★	High School ★★★
Elementary School ★★★	University & school ★★★

As mentioned above, it is reasonable to assume that soft skills will become increasingly important in the coming years. Among these, communication, and more specifically the ability to speak in front of an audience, is essential. While few jobs require speaking to a large audience, many professionals must regularly present reports or speak in front of small groups. This is why good elocution and oral fluency are important assets. VirtualSpeech offers a solution that allows you to work on your oral expression in optimal conditions, in order to develop solid habits for presentations, interviews, and other professional situations.

- Public speaking can quickly become a source of stress for learners. This problem often persists in the professional world, where it can become restrictive. While some individuals are naturally more comfortable than others, the major difference lies in practice. In schools, depending on the curriculum and teaching methods, students are required to give more or fewer oral presentations. **The more a student practices, the more confident they become.** Conversely, if they are never confronted with it, the situation is likely to remain anxiety-provoking and turn into lasting fear. For teachers, however, organizing presentations remains complex: in a class of 30 students, with only 10 minutes per presentation, it would take nearly 5 hours for everyone to present, which takes up a large part of teaching time. The proposed solution circumvents this difficulty **by allowing several students to practice at the same time,** which saves a considerable amount of time.

- One of the main obstacles to oral practice among students is the fear of judgment and the fear of looking ridiculous. Without this pressure, it becomes much easier to express oneself clearly. **The use of a virtual reality headset provides an environment that is both safe and realistic enough to build confidence,** even in real-life situations. In addition, the fact that artificial intelligence can respond based on exchanges with the student reinforces the realism of the experience. As a result, learners gradually gain confidence in different contexts. Finally, the immersive and **playful nature of virtual reality stimulates student engagement and encourages them to actively participate in exercises.**

- Beyond public speaking, the platform offers numerous **scenarios that are particularly useful in the professional world but often overlooked in traditional learning programs,** even though training should prepare students for the world of work. These include traditional presentations, job interviews, pitches, and many other scenarios that prove invaluable both for advancing within a company and for job seekers.

- Once the module is complete, VirtualSpeech provides detailed feedback on students' speaking skills. This feedback takes into account both verbal language, i.e., the content of the conversation, and nonverbal language, such as posture, eye contact, and gestures. **This aspect is particularly important, as it is difficult to analyze even for a teacher.** The tool then assigns a score, along with areas for improvement and a comparison with previous sessions. Teachers also have the option of viewing the recording of the presentation to complete their assessment.

However, there is one negative point:

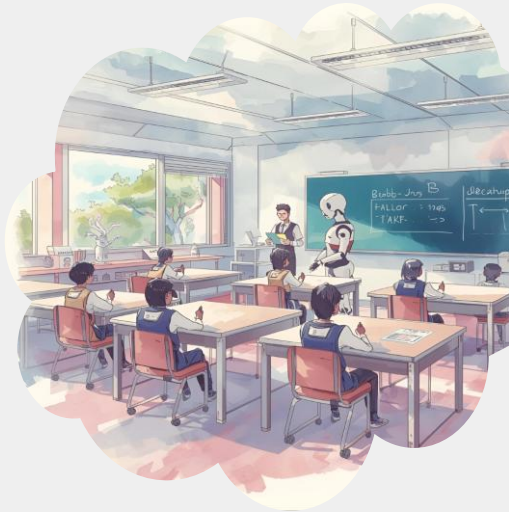
- In a classroom setting, if too many students use the solution at the same time, it can be difficult to concentrate, so the tool **seems to be limited to around 4 or 5 students simultaneously.** Furthermore, this type of solution is only a training tool and **cannot replace real-life situations** with real people. It is a good starting point for preparation, but it must be supplemented by real-life situations, whether in interviews with professionals or exercises supervised by teachers. For educational institutions, artificial intelligence should be **seen as a teaching aid, not a substitute.**

New materials?

Beyond questioning established practices in schools, **it is essential that learners be trained in artificial intelligence.** This involves both learning how to write effective prompts and understanding that AI is based on statistical and probabilistic models, which do not always provide accurate solutions.

Today, a company that does not use AI for certain tasks risks being less productive than one that does. The situation is comparable to a company that has never adopted computers and continues to write everything down on paper: it works, but at the cost of wasted time and efficiency. **In this context, it is essential that students not only know how to use these tools, but also understand how they work** in order to identify their limitations and know when AI is relevant and when humans need to take over.

This phenomenon is also visible in Switzerland. **According to RTS, Swiss companies are increasingly looking for specialists in artificial intelligence.** To meet this demand, new professional and academic training programs are emerging. From 2026, it will even be possible to obtain a federal diploma as an AI specialist. It is likely that this type of module will gradually be integrated into more traditional curricula. However, a number of teachers remain reluctant to let students work with AI, which may slow down this process.



Google: Draw, train, AI guesses

Google has launched two websites, Teachable Machine and Quick, Draw!, which help users better understand how AI works through interactive mini-games.

Type
Interactive web applications.

Competitive advantage
Both applications are accessible directly from a web browser and easy to use.

Price
The tools are completely free.

Number of users
There are no official figures for Teachable Machine, but as it is a free app developed by Google, we can assume that it has already been widely used. On the other hand, for Quick, Draw!, more than 15 million players have contributed by creating millions of drawings.

Level of development
Google needs no introduction. A major player in the digital world, it now employs nearly 180,000 people worldwide. Its current ambition is to position itself as a pioneer in several innovative sectors, particularly in the field of artificial intelligence. For several years now, Google has been offering the general public small, free applications and games that are both fun and educational. With Teachable Machine and Quick, Draw!, the goal is clear: to promote AI, make it more accessible, and enable as many people as possible to better understand how it works.

How does it work?
Access to both applications is completely free: no registration is required, all you need is a web browser to start using them. These interactive games offer a simple and fun way to better understand how an artificial intelligence algorithm works.

Link https://quickdraw.withgoogle.com/

Features:

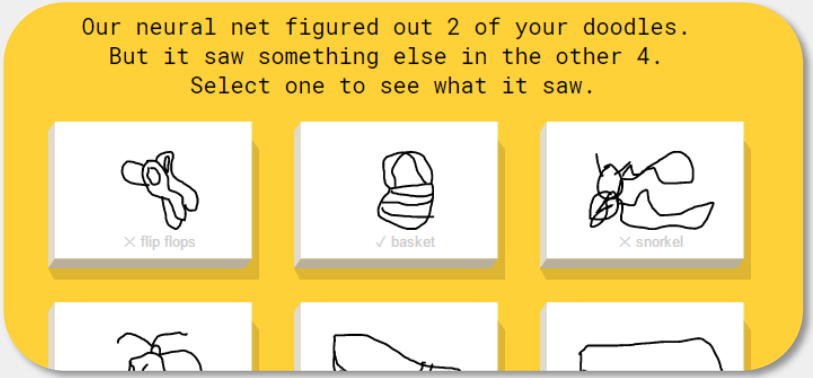
- Both applications **can be used without login credentials,** but since they are linked to the Google ecosystem, it is possible to save projects directly to Google Drive. This not only allows you to return to them later, but also to share or resume a project created by someone else.

- Teachable Machine offers different types of models for training. The first is the image-based model: the user creates several classes composed of visual examples used for learning. Once training is complete, **the tool uses a predictive model to analyze a new image and indicate, with a percentage probability, which class it belongs to.** Examples can be provided either from photo files or directly via the webcam.

- Two other modules operate on the same principle. **The first uses audio:** the model trains on different sounds so that it can distinguish between them, for example to recognize a style of music. **The second is based on postures:** using images or a webcam, the AI learns to identify and differentiate between movements or body positions.

- It is then possible to **modify the model's training parameters in order to observe its evolution and performance.** The model can also be exported for reuse, adaptation, or integration into other projects.

- Quick, Draw! invites users to draw the word displayed on the screen with their mouse. If the AI recognizes the drawing, a point is awarded, out of a total of six attempts. At the end of the game, **users can see why the AI recognized or did not recognize a drawing,** based on its vast database of examples.



Kindergarten ★★★	High School ★★★
Elementary School ★★★	University & school ★★★

Artificial intelligence today represents a real revolution affecting various fields such as health, education, research and work. Its rapid adoption can be explained by its ease of use, its online accessibility and the fact that it does not require advanced technical skills. The immediate and often spectacular results reinforce its appeal, as does the 'wow' effect experienced during initial interactions, accentuated by new features such as oral dialogue and advanced search. Hence the importance of understanding how it works: AI is based on statistical models that produce plausible, but not always accurate, results. In an educational context, it is therefore essential to learn how to use it while developing a critical eye to know when human intervention is still necessary.

- Teachable Machine allows learners to visualise how artificial intelligence works in concrete terms, and **more specifically to understand the importance of the datasets on which it is trained.** The most telling example is based on images: the larger and more diverse the sample for each category, the better the algorithm will be able to correctly recognise which class a new image belongs to. The tool also offers the possibility to modify certain training parameters, allowing users to directly observe the impact of these settings on the final model**. Students thus discover the basics of machine learning in a fun way,** which increases their motivation and interest in the subject. In this way, integrating AI into the classroom not only benefits students, but also makes the course more interactive, clearer and therefore easier for the teacher to deliver.

- While images are a first step, it is also possible to explore other formats such as audio or postures. This allows for a deeper exploration of the subject while noting that the learning process remains similar from one model to another. **The experience can become fun,** for example by comparing two styles of music or contrasting the human ear with that of AI, in order to observe how many samples it takes for the model to improve in performance.

- Quick, Draw! is an app with a particularly interesting concept. The tool suggests a word, and the user has to draw it in a few seconds. The AI then tries to guess what the drawing represents. After a series of six attempts, the app displays the results: either the words were recognised, or the AI suggested another term that it deemed more likely. The most relevant aspect is that the tool explains its choices: it shows why it thought of a particular word and compares it with other drawings from its database. This illustrates a fundamental point: **the AI is based solely on the examples it has seen during its training.** So, if a student draws an object in an original or unusual way, the AI may not recognise it, because the majority of people in the training set did not represent it that way. This experiment teaches us a lesson: **AI can be effective for certain tasks, but its results depend directly on the quality and diversity of the training data.** Students then intuitively understand that AI tends to reinforce dominant representations and has more difficulty recognising new ideas or forms.

- Finally, these applications do not claim to explain in detail how AI works, but they do provide a **better understanding of the concepts involved and, more specifically,** the importance of data sets.

However, one point requires vigilance:

- It would be naïve to believe that companies whose goal is profitability actually offer free services. A now well-known saying reminds us: 'If it's free, you're the product. "In other words, when platforms are not financed by advertising, they generally profit from users" personal data. This information is analysed, resold or used to improve algorithms. This therefore requires particular vigilance, especially in an educational setting where students may be asked to share their photos, creations or other sensitive data.

Unlimited customisation

Although artificial intelligence is based on mathematical logic, it stands out for its ability to personalise responses according to the interlocutor. It can also store **conversation history to ensure continuity and consistency in exchanges.** This feature is already being used in several areas, particularly in chatbots used in customer service, and in video games, where AI makes dialogue more natural and interactive. A notable example is the game ‘Suck Up!’, which is based exclusively on conversational interactions with artificial intelligence.

In the field of education, this capability **could be used to tailor courses to the specific needs of each learner.** The teacher would then take on a supervisory role, monitoring their students' progress. This approach offers a real advantage: **it would allow everyone to progress at their own pace while still achieving** a common core of knowledge. Tools that are already available, such as Gemini, ChatGPT and Claude, offer a glimpse of these possibilities. They could, for example, offer revision methods tailored to each student's strengths and weaknesses, particularly through project modules.

However, these solutions are not yet specialised for specific educational purposes. It is conceivable that in the future, **institutions will regularly work with AI designed specifically for teaching,** with a database focused solely on course content and exercises. This would enable them to offer personalised support to students without overwhelming them with a mass of general information. This prospect is particularly relevant in universities, where a professor may sometimes have to teach several hundred students. In such a context, students could ask their questions directly to the AI, and when the answer is insufficient or too complex, the professor would intervene. **Such a system would save considerable time for teaching staff, who could then devote more time to high value-added tasks,** such as research or individual support.

Century: a personalised tutor

Century Tech is an artificial intelligence-based educational platform that personalises learning paths according to each student's level and needs.

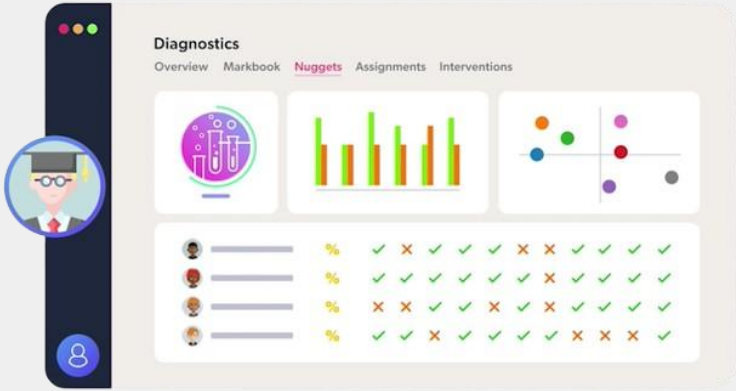
Type
Educational platform.

Competitive advantage
Ability to combine personalised learning with support for teachers.

Price
Prices vary depending on the school year: the higher the level, the higher the cost. Prices start at GBP 910 (CHF 980) per year per school for KS1 (pupils aged 5 to 7) and can exceed GBP 2,650 (CHF 2,850) per year per school for Post-16 (pupils over 16).

Number of users
No information was found on this subject.

Level of development
Founded in 2013 in London by entrepreneur Priya Lakhani OBE, Century Tech's mission is to provide teachers and learners with intelligent tools that promote success. According to its LinkedIn page, the company now has 117 employees and has won several prestigious awards, such as the Edtech Impact Award 2022, the Edtech UK 50 Award, and a place as a finalist in the Education Resources Awards. These accolades, combined with its long history, testify to the company's strength and credibility in the edtech sector.



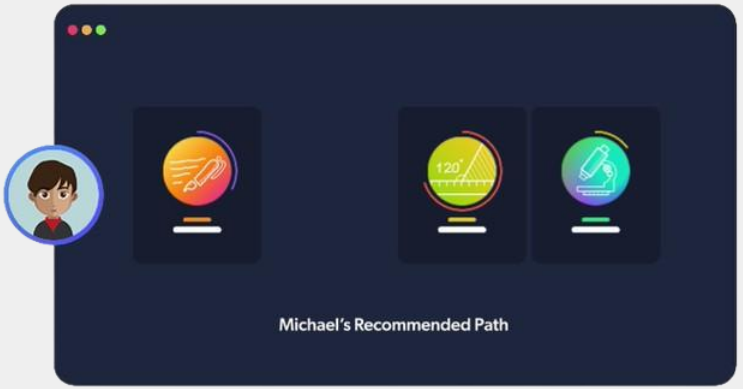
How does it work?
The platform offers a comprehensive interface that enables teachers to deliver their lessons. Learners log in and work on different modules depending on the subject. Exercises are automatically adapted to each student's level in order to personalise the learning experience.

Link https://www.century.tech/

Century: a personalised tutor

Features:

- The tool allows you to **set up 'smart assignments' that correspond** to personalised exercises for each student in just a few clicks. It is then easy to track student engagement and completion.
- **Basic assessments** are available to identify students' weaknesses more precisely or to assign a grade.
- The platform collects various data which can then be **presented in the form of a dashboard** to monitor pupils' performance and guide future educational choices.
- Century offers to **share various information with parents** to support their child's learning.
- The solution seamlessly **integrated captivating BBC programmes into its award-winning** teaching and learning platform. With over 75 hours of educational video content from iconic programmes such as Blue Planet II and The Planets, and 4,500 formative assessment questions.
- Tasks such as lengthy writing assignments can be corrected quickly and **easily using the audio and video comment feature.**
- **Several subjects are available** depending on the class level.



Kindergarten ★★★	High School ★★☆
Elementary School ★★★	University & school ★☆☆

Century: a personalised tutor

It is difficult for a teacher to monitor each of their students individually in a class of 25 or 30 people, where each learner has their own strengths and weaknesses. However, traditional teaching remains the same for everyone, with uniform lessons and identical homework assignments, aimed primarily at passing an exam. This approach does not always take into account the real needs of each student: some progress faster and become bored, while others encounter difficulties and drop out. To address this challenge, Century uses artificial intelligence to personalise learning, adapting content and pace to each student's skills and progress.

- The main added value of this solution is that **it enables truly personalised learning by adapting exercises** to the specific needs of each learner. The process begins with an initial test that identifies strengths and, above all, areas for improvement. The platform then automatically suggests targeted exercises based on these results. In this way, **students who are struggling receive tailored support that allows them to progress independently,** without relying exclusively on the teacher, while more advanced students are no longer constrained by the average pace of the class and can **deepen their knowledge at their own speed.** This means that no one is left behind: those who are less comfortable consolidate their knowledge, and the most brilliant continue to be intellectually stimulated. For the teacher, the benefits are also considerable. On the one hand, they can focus their energy on the pupils who are experiencing the greatest difficulties and for whom human support remains essential. On the other hand, they save valuable time, as the platform automatically generates tailored assignments, corrects them and provides detailed monitoring of each pupil's progress and engagement. This approach not only **optimises teaching effectiveness, it also makes the learning experience more motivating and equitable** for the whole class.

- Beyond saving time and offering personalisation, the platform provides exercises that are more interactive and engaging than simple lessons in a workbook. In particular, it includes educational videos that diversify the content and make learning more attractive. **This approach helps to energise lessons, capture students' attention and stimulate their motivation.** The variety of teaching formats also makes it possible to cater to different learning styles, reaching a greater number of students and leaving no one behind.

- It is not always easy for parents to closely monitor their children's schooling, especially when they themselves have particularly busy schedules. However, numerous studies show that greater parental involvement generally has a positive impact on academic results. To encourage this involvement, the platform provides detailed statistics, presented in clear and accessible dashboards. This information can be sent directly to parents and is also available to teachers, **giving everyone a better overview of the student's progress, difficulties and commitment.**

- Automatic correction of exercises and tests saves teachers a considerable amount of time. However, teachers still have the option to review and adjust corrections if necessary. The tool goes even further by providing feedback in the form of audio and video clips **to help learners better understand their mistakes.** This approach promotes genuine collaboration between the teacher and artificial intelligence, combining technological efficiency with human educational support.

Nevertheless, this solution may raise questions:

- Beyond the time savings it provides, it is essential not to rely excessively on this type of tool, at the **risk of reducing the richness and diversity of teaching approaches.** By focusing primarily on a more academic approach to learning, the tool can tend to standardise methods and stifle the creativity of both teachers and learners. However, no teaching model is universal: each student learns differently, according to their own pace, needs and abilities. It is therefore important to consider this type of AI as a complementary support, **useful for accompanying learning, but certainly not as a single solution or an end in itself.**

The Issues of Artificial Intelligence

Through the various examples observed above, we can see that artificial intelligence will bring about profound changes in the education system, with numerous advantages for teachers, students and schools alike. However, most of these tools are based on existing models, trained using external corpora or databases.

One of the problems that is still not discussed enough is that these tools reflect our society and therefore reproduce existing biases: cultural stereotypes, responses centred on a Western perspective, or even implicit orientations towards certain types of discourse. **Yet education aims precisely to develop learners' critical thinking skills.** If AI is not used thoughtfully, this critical thinking may be weakened, even though it will become essential in the years to come. This phenomenon is also accompanied by model 'hallucinations', i.e. the invention of non-existent information or sources. This problem, which is inherent in the probabilistic functioning of AI, must be understood and explained by teachers so that they can pass it on to their pupils and teach them to use these tools with discernment.

Personal data circulating between different tools is another major issue: it can be used by companies to improve their algorithms, at the expense of privacy. However, data relating to schools and pupils is particularly sensitive and should be strictly protected. It remains difficult to know precisely how the major digital players collect and use this data, and recent scandals have shown that transparency is not always guaranteed.

Faced with these challenges, a promising development is emerging with the **implementation of local AI,** hosted directly within institutions. This approach has many advantages: **it allows for better control of training data, reduces bias in external models,** and ensures enhanced privacy protection. Information remains stored on internal servers, facilitating compliance with GDPR standards. In addition, local AI can be fully customised, more reliable and responsive, precisely meeting the needs of teachers, students and the institution. **In this context, initiatives such as Apertus, presented as the first 100% Swiss AI, are an interesting avenue to explore.** Although it still has several technical limitations, it has the merit of being transparent about how it works and paving the way for the ethical and sovereign development of artificial intelligence. At the European level, Mistral is also worth mentioning: both models can operate entirely locally, **thus ensuring a safe and controlled environment for schools.**

Finally, this transformation also highlights an issue that is already familiar in the field of IT: **the digital divide.** Some schools and pupils will be well equipped to take advantage of these new technologies, while others will be much less so, which risks widening existing inequalities. This is why sensible and equitable investment is essential to ensure that this development benefits everyone and does not reinforce current imbalances.

AI in schools: educational opportunities and challenges

New technologies must be approached with caution, but artificial intelligence, due to its **profoundly disruptive nature and rapid adoption,** deserves special attention today. Thanks to the widespread use and accessibility of digital technology, this recent technology has already become widely available, affecting a large number of people and sectors of activity. This is why the field of education, and more specifically school curricula, must address the issue without delay. We are already seeing the emergence of training courses designed to prepare people for the use of AI, **but it would be desirable for all schools to include at least an introductory module.** The aim is to avoid a divide between those who master this tool and understand how it works, and those who remain unfamiliar with it, which could exacerbate inequalities, particularly in a labour market where AI skills are increasingly sought after.

Understanding AI is indeed a key issue. **First, it allows us to grasp that these systems are based on probabilistic models: the answers they provide are therefore not always accurate and may contain errors,** sometimes referred to as "hallucinations". This limitation is reinforced by the fact that **AI aims to satisfy the user,** even if it means agreeing with them when their statements are inaccurate. Being aware of these aspects is essential for developing a critical and thoughtful use of these tools. The initial surprise at their performance is certainly impressive, but it should not obscure their real limitations, which are important to know and teach. Furthermore, the tool inevitably incorporates biases derived from the training data and the very functioning of its algorithm, **which may influence the nature of its responses.**

Despite these precautions, AI offers particularly interesting prospects in the field of education. **Its main advantage lies in the personalisation of learning:** it is capable of providing tailored explanations, offering targeted exercises and adjusting to the pace of each learner. Students thus benefit from more individualised support, while teachers save time by automating certain repetitive tasks and can focus on higher value-added tasks, such as personalised monitoring or supporting students in difficulty.

Finally, it is likely that the rise of AI will lead to a shift in the skills sought after in the labour market. Tasks based purely on memorisation, such as translation, are likely to become less important, **while companies will place greater value on human skills that AI cannot replace, particularly soft skills** such as communication, creativity, critical thinking, collaboration and emotional intelligence. This will require a transformation of the education system, which will gradually have to place greater emphasis on interpersonal skills, relationship skills and oral expression to better prepare students for this new professional environment.