

Case Study

How Retresco supported the Westermann Group in developing an AI-based assistance system



The Westermann Group is one of the leading providers of educational media in German-speaking countries. Westermann covers the entire range of teaching and learning media needs – from early childhood to vocational training. Its products are aimed at all types of schools, school levels and subjects and, in addition to educational media, also include materials for pre-school learning, educational games and books for children and young people.

The starting point: relieving teachers through AI

Teachers are under considerable time pressure: preparing lessons, setting assignments, assessing performance, providing feedback. Against this backdrop, Westermann pursued a clear goal: the BiBox digital teaching system was to be expanded to include AI-based functions that would ease the burden on teachers in their everyday work – without replacing pedagogical decisions. The key requirement was that all AI services should be based on tested teaching content that complies with the curriculum.

The idea: AI as a didactically sound assistance system

Westermann designed the following AI-based functions, which were to be integrated directly into the BiBox:

- AI-based task suggestions based on existing teaching material content
- AI-based correction tools that support teachers in assessment and feedback

The aim was to reduce time-consuming routine tasks and give teachers more time for educational work and individual support.



AI as a didactically sound assistance system in the BiBox – developed jointly with Retresco

The screenshot shows the BiBox digital teaching system interface. A dashed blue box highlights a specific feature:

1. Lösungsvorschlag erstellen

Bitte tragen Sie zuerst eine Lösungserstellung ein, um die e-KlausurAPP freizuschalten. Es benötigt 1 von 2 Zeichen.

Für das SoP-Thema „Auswirkungen der Revolution“ 1/750 von 300 Zeichen

Der Absolutismus gab den Bürgern keine Möglichkeit zur politischen Mitbestimmung oder zur Mitgestaltung. Die König war omnipotent. Die alte Wirtschaft war eine Manufakturwirtschaft, wohingegen Mittelschichten kaum berücksichtigt. Da die Wirtschaft im Mercantilismus durch die Manufakturen geprägt war, waren freier Handel und freier Wettbewerb eingeschränkt.

Integriertes Bilderupload (01)

Dabei löschen Neuer Lösungsvorschlag max 1

Abbrechen Weiter

Aufgabenmanager

Neue Aufgabe

Pädagogik: Bildmaterial zur e-KlausurAPP einsetzen, falls benötigt...

Über S1 – Auswirkungen der Revolution

Die Uthkeckart zeigt menschliche Mörge. Die Steigendlung im Norden war weitläufig. Mitte des 18. Jahrhunderts wurde der Fluss durch einen Kanal verlegt.

Eine Fregattenkennung

The implementation: Textbook content as the core of AI

The new AI services were technically integrated as part of the BiBox relaunch for the new school year. The focus was on existing teaching materials, which were designed to form the core of the AI solution. The AI functions were developed in close collaboration with the AI specialist Retresco. The basis for this was an advanced book data processing process that made it possible to systematically structure existing textbooks and made them available for both digital products and AI applications.

On this basis, the new AI services were created for secondary school textbooks and vocational training materials. Current language models were specifically linked to the processed textbook data. This approach ensured that the AI applications work in a didactically sound manner, are technically correct and reliably take into account the respective context of the textbook content.

The newly developed AI functions are fully embedded in the BiBox and can be used seamlessly – without additional tools or media breaks. This allows them to fit smoothly into existing digital teaching routines.

Retresco supported the project throughout the entire development process. This involved co-designing and implementing AI-supported services, as well as providing technical advice on architecture, NLP, GenAI and RAG applications. In addition, it encompassed the joint development of AI-based task suggestions, solution hints and correction aids precisely tailored to the respective textbook content. At the same time, this laid the foundation for target group-oriented, adaptive learning with AI that can be used in a differentiated manner according to school type, subject and competence level.

The challenges: complex content, high quality standards

The development also presented challenges, but these were successfully overcome:

- Heterogeneous content: The educational media included texts, tables, diagrams and charts with very different technical requirements.
- Large catalogue: The large number of textbooks required extensive testing and continuous adjustments.
- Structural diversity of tasks: Different tasks could not be easily extracted automatically due to varying layouts and designs – human logic could not simply be replicated one-to-one.
- Dynamic AI development: Continuous improvements in results made it necessary to regularly evaluate language models and external solutions.



'When relaunching and further developing our digital learning platform BiBox, we were faced with a key question: make or buy? The decision to go with Retresco was an easy one – not least because of our successful collaboration in the past and their in-depth AI expertise. Together, we were able to develop innovative AI-based functions that noticeably reduce the workload for teachers in their everyday work. In addition to their extensive expertise in the field of development, the accompanying AI consulting was particularly valuable to us.'

Christian Bass
Head of Specialist Information, Westermann Group



The solution: AI services based on reliable data

The structured book data processing process formed the basis for the development of the new AI-based functions. Accordingly, AI-based task suggestions, solution hints, and correction aids were developed and have since been used in lessons with precise content and a sound didactic foundation.

The beta versions of the AI services are now available. Initial usage data shows high acceptance: teachers are testing the new features intensively and saving numerous AI-generated tasks to share with students at a later date.

The continuous development of AI services is based on feedback from teachers. Additional functions are conceivable in the future, such as support for gap-fill exercises and multiple-choice tasks or the recognition of written language.

Discover our AI tools for media, eCommerce and more!