

# PROJECT TOOLS@SCHOOLS:IMMERSIVE – TASKS FOR A CRITICAL USE OF GENERATIVE AI IN IMMERSIVE FOREIGN LANGUAGE SEQUENCES IN SUBJECT TEACHING

Mit den rasanten Fortschritten in der digitalen Übersetzung und Künstlichen Intelligenz steigt der Bedarf an Materialien, die den reflektierten Einsatz von KI im Sprachenlernen fördern. Im Rahmen des Tools@Schools:immersiv-Projekts entwickeln wir daher Aufgaben, die digitale und fremdsprachliche Fähigkeiten stärken und gleichzeitig generative KI in immersive Fremdsprachen-Sequenzen (*ilots immersifs*) einbinden. Bisher haben wir zwei Aufgaben erstellt – flexibel an verschiedene Sprachen anpassbar für die Fächer Hauswirtschaft und Geschichte – und setzen KI-Tools wie ChatGPT ein, um eine kooperative Interaktion mit KI zu ermöglichen. Dieser Ansatz fördert nicht nur das Sprachenlernen und das Verständnis von Inhalten, sondern auch kritisches Denken und eigenständiges Lernen.

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## 1. Introduction

The proliferation of text generation tools, such as ChatGPT, indicates a potential expansion of their influence on education, including primary and secondary levels (LCH, 2024; SBFI, 2019). While the possibilities and impact of AI tools for text generation in higher education have received quite a lot of attention (cf. Meyer & Wessels, 2023; Schmohl et al., 2020) specifically with regards to academic writing, AI tools are increasingly used for all sorts of tasks for language learning, for instance listening and speaking development, writing gains, vocabulary increase, and grammar learning (Dizon, 2020; Huang et al., 2023; Lee, 2019; Woo & Choi, 2021; Zhang & Huang, 2024). As repeatedly stated in the research, the question for the foreign language classroom is not whether teachers and learners welcome or consider the use of AI tools in language learning, but rather that they do this with a certain degree of attention and reflection. Language learning is not confined to traditional

foreign language classrooms, it can also take place in immersive foreign language environments. Digital tools and platforms can facilitate the implementation of immersive learning. This shift aims to integrate foreign language use into a wide range of real-world scenarios, mirroring natural language immersion. Moreover, non-language subjects can simulate cultural immersion, which complements foreign language use.

This paper examines the products and preliminary results from the project “Tools@Schools:immersiv”, in which we are creating tasks to enhance digital and foreign language skills. There are many ways to integrate a foreign language into subject teaching. For example, by incorporating an original Italian source in history lessons or a recipe for a French specialty in French for home economics classes. These texts in the original foreign language are authentic and thus interesting (Efverlund & Anyadi, 2022), but they can be linguistically challenging for the students. A simple translation using a

# We develop tasks to enhance digital and foreign language skills while supporting generative AI in immersive foreign language sequences. This approach enhances both language learning and content understanding, while also promoting critical thinking and autonomous learning.

machine translation tool does not, or only partially, serve language learning and the objectives of subject teaching in a foreign language. Even in this context, the use of online translation tools and automated AI tools requires guidance to ensure that language learning occurs alongside content learning. Our goal is to incorporate generative AI into immersive foreign language learning sequences (*ilots immersifs*) within subject teaching, thereby addressing contemporary didactic methods in foreign language education at the lower secondary level. An *ilot immersif* or 'immersive island' refers to a shorter or longer teaching sequence in a foreign language that integrates the teaching and learning of foreign languages in subject teaching (Freytag Lauer, 2019; 2018). In this sense, immersive islands can be understood as a special format of bilingual education (Gajo et al., 2018).

The tasks are designed to incorporate generative AI as a resource that users engage with and use cooperatively, rather than as a replacement for their own thinking. Through activities such as interactive translation practice, writing assistance and post-editing, and preparation of oral presentations or debates, students can enhance their language skills and subject knowledge in collaboration with AI. This approach fosters critical thinking and promotes autonomous learning.

## 2. Methodology

In line with the tasks from the first project Tools@Schools (Perrin et al., 2022; 2021), we developed tasks which consist of four parts or sub-tasks:

- a) familiarization with the topic,
- b) consultation of the AI tool,
- c) language production using the tool, and
- d) final reflection.

The task structure is based on the LUKAS model, a process model for creating competence-oriented tasks, developed at the University of Teacher Education Lucerne (Wespi et al., 2015). This model describes a natural learning process where learners initially familiarize themselves with a topic or issue, then deepen their understanding, and eventually engage with it more thoroughly by transferring their gained knowledge to a new context. The goal is for the task structure to support these sequential learning steps,

promoting the learning process from both a usage- and competence-based perspective. The topics of the tasks were chosen based on their thematic occurrence in the current curriculum ('Lehrplan 21' in the Eastern part of Switzerland) for lower secondary level, their connection to an authentic language and cultural immersion, and their suitability for immersive contexts. Completing the tasks takes one standard lesson of 45 minutes, depending on the general pace in the classroom and whether the teacher has already spent some time previously discovering AI tools with their students.

To improve manageability and allow a certain degree of flexibility, the tasks were modularized. This allows teachers to prioritize certain sub-tasks, such as the familiarization phase, before progressing to a more intensive work phase with the tool. The tasks include guidance for teachers on how to adjust them based on their position within the curriculum. Further, they provide sample scenarios in which the task can be implemented.

At this stage in the development and revision process, the tasks are tested in classrooms. The tasks can be handled by foreign language teachers or teachers of non-language subjects, as the goal is to promote implicit language learning in collaboration with AI tools. This approach eliminates the need for both students and teachers to possess advanced foreign language skills, which would otherwise be essential without the support of AI. In the following, we describe a sample task before reporting on the testing of this task in an 8th grade (lower secondary level) in the Canton of St.Gallen, Switzerland.



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### 3. Sample task

One task presents a so-called *ilots immersif* in the foreign language French in home economics class. The topic for the task is the economic cycle. In the first sub-task, students explore the notion of economic cycle by reflecting on the sources of their pocket money and mapping out how they spend it. They then imagine a specific scenario in which they spend 50 Swiss Francs on a game at the Swiss supermarket Migros and note down where the money goes next, thereby activating the students' prior concepts and knowledge.

Following this, they consult an AI-tool for the first time as depicted in Figure 1. They ask ChatGPT where the money goes, thereby familiarizing themselves with different ways of prompting, such as adopting the role of an accountant at Migros. Students note down the answers provided by the chatbot and compare them with their own, as well as those of their peers. By engaging with their peers, they compare and critically reflect on different prompting outcomes. This first phase can be done in the language of schooling (German in this case).

The second phase introduces the foreign language. In subjects such as home economics, many topics have language or culture-specific character, and the topics themselves relate to everyday notions which we may encounter when immersing ourselves in the language

and culture. For these tasks, emphasis is placed not only on linguistic correctness but also on subject-specific language. Therefore, we chose a topic that is relevant to the students' daily lives: money. They watch a YouTube tutorial in French that explains the economic cycle. In an engaging video with French subtitles, the influencer Hanna Cash shows how the economic cycle works, why things cost money, and why we must work to pay for them.

After watching the video, the students complete a table with key concepts and keywords mentioned in French, adding their German translations (they may use machine translation to assist with this). Next, they compare their word lists with the descriptions they used in phase 1 (cf. Figure 1) to complement and hence explain the concept more holistically.

In the production phase, they sketch an entire economic cycle, using a scenario of their choice (pocket money or other) and using the French words they have collected throughout the task. They can do this in the form of a mini poster, on a flip chart or on the blackboard. The aim is for every student (alternatively in pairs) to present their depiction to the class in the foreign language. They are shown how to practice their short input with the help of the listening / pronunciation function of the AI tool. In groups of 2-3 students, they discuss how they used the chatbot and other digital tools, what difficulties they encountered, and what worked out well.

In the second task, designed for history class, students explore primary sources on the topic of migration in their original language, Italian. Students, who have very little to no prior knowledge of Italian, attempt to understand the texts using intercomprehension (Tafel et al., 2009) and, later, with the assistance of AI. Initially, they examine the texts to identify familiar words and expressions in Italian. Then, they use a chatbot in German to delve deeper, uncovering more nuanced meanings. Imagining themselves as early 20th-century emigrants traveling from the Italian-speaking part of Switzerland, the Ticino, to the USA, they immerse in the historical context. Finally, they reflect on how the chatbot aided their comprehension and enriched their understanding of the texts.

a) Nehmen wir an, dass du bei der Migros ein Spiel für 50 Franken gekauft hast. Was denkst du: Wohin fließen nun die 50 Franken, die du der Migros eben bezahlt hast?

Frage: Wohin fließen die 50 Franken, die ich in der Migros ausgegeben habe?

b) Gehe nun zu ChatGPT und stelle dem Chatbot («Chat-Roboter») Fragen, um herauszufinden, wo das Geld tatsächlich hinfließt. Achte beim Befehl ('prompting') darauf, dass du dem Chatbot sagst, welche Rolle es übernehmen soll. Also dass du seine Expertise willst, z.B. «Du arbeitest bei der Migros in der Buchhaltung...» Welche Ideen hat ChatGPT genannt, an die du nicht gedacht hast?

Figure 1

Excerpt from the task "Economic cycle" ('Le circuit économique' – der Wirtschaftskreislauf)

## 4. Discussion

The classroom testing of the “pocket money” task was conducted in June 2024 with an 8th grade secondary class of 18 students. Following this, the project team interviewed the teacher to gain some insights on her as well as her students’ perception of the task. Although the task was tested in a language-learning context rather than in home economics, the teacher’s extensive instructional experience provided valuable perspectives on student comprehension and task feasibility. With her background in French, German, English, and visual arts, she offered observations on the task’s adaptability, assessing its suitability for teachers with differing levels of French proficiency. The teacher generally had a positive impression of the task. In the previous weeks, they had been covering AI awareness in the classroom. For instance, all students had previously tried out ChatGPT and done some prompting. The teacher provided them with insights, such as how the role of perspective in prompting can lead to more accurate results.

The task contains several learning goals stated at the beginning. Interestingly, the teacher prepared her students for the task by engaging in a meta-reflexive discussion on the learning aims. In this way, she clarifies student expectations and promotes students’ active collaboration in skill development. This procedure contributes strongly to the overarching goal of promoting students’ general reflective skills. As stated, the tasks themselves and the final step in particular aim to strengthen students’ critical thinking and reflection on the use of the tools, their benefits and pitfalls. Incorporating these competences into a general reflective setting is beneficial.

The teacher assessed the task difficulty as relatively low, which may be attributed to her students’ familiarity with chatbots like ChatGPT or to the general competence level in the classroom, despite her view that the class is evenly split between stronger and weaker performers. Therefore, it is important to acknowledge that this conclusion is not definitive and would gain reliability through comparisons across different classrooms. Moreover, a task perceived as easy might be even less challenging for strong students,

while failing to adequately reflect the challenges faced by less proficient students in the class.

According to the teacher, the students were highly engaged with the chatbot during sub-tasks where they asked the chatbot to elaborate on processes (e.g., the economic cycle). Working in pairs, they discussed and compared the vocabulary provided by the chatbot with their own. The teacher noted that the students showed a strong interest in this vocabulary work and could have benefited from spending more time on this aspect. This observation ties in nicely with previous research on the use of chatbots to broaden one’s vocabulary. Zhang & Huang’s study compared two groups of foreign language learners: one using a large language model-based chatbot and one without. Over eight weeks, the chatbot group showed significantly better vocabulary knowledge, especially in long-term retention, suggesting large language models as effective language-learning tools. (Zhang & Huang, 2024).

The pocket money task focuses on vocabulary. With a process-related topic such as the economic cycle, it would be interesting to focus on grammatical aspects as well, for instance describing the past or hypothesizing about the future in a foreign language. According to the teacher, we need to have more confidence in students to do more language work with the help of the chatbot, including exploring linguistic nuances such as specific grammatical instances. This is particularly interesting as the emphasis of immersion lies not on coerced language acquisition but rather on engaging with the foreign language in an alternative context, without the same pressure to enhance linguistic proficiency as in traditional language classes. But with the chatbots offering increasingly versatile possibilities, it is essential to consider integrating specific, targeted linguistic objectives that go beyond vocabulary development. This feedback might suggest that teachers encourage students with varying language proficiencies to engage with the AI tool to different extents for language learning, setting specific content and language aims.

The small-scale testing of this one task shows the potential of an application at the lower secondary level. Also, in this

case, the application worked well even though the teacher is not a home economics teacher. This raises the question of how the tasks can be implemented if the subject teacher is not a language teacher or if the teacher is responsible for both the subject and language instruction. There are three dimensions which deserve more attention for the development and revision of further tasks: alignment of subject-specific competencies and language learning, differentiation of students' performance, and implementation of classroom policies. The described materials for immersive contexts are developed by teachers and teacher trainers teaching in both the foreign language and the subject matter. There is need to involve additional educators in the co-creation of the tasks to ensure they address both linguistic demands and subject content comprehensively. Furthermore, the final sub-task, which encourages reflection, should be designed to actively engage students in thinking about their language use and content understanding, helping them to become more aware of how language skills support their learning across other subjects.

Currently, the tasks contain commentary for teachers on how to adapt or modify the tasks according to students' differing proficiency levels. We have yet to gain more insights across classrooms as to the difficulty of the tasks. As highlighted by the teacher who kindly volunteered to test the task, many teachers are left on their own when it comes to systematically implementing machine translation and AI tools in their classrooms. While some teachers are highly engaged in exploring new digital developments and eager to try them out in the classroom, others feel overwhelmed by the fast-moving developments and oftentimes do not know where to begin. Wider, possibly level-specific, classroom policies should be considered. Additionally, teachers should have access to further education courses, along with teaching materials and guidance on implementation.

**Through activities such as interactive translation practice, writing assistance and post-editing, and preparation of oral presentations or debates, students can enhance their language skills and subject knowledge in collaboration with AI.**

## 5. Bibliography

- Dizon, G.** (2020). Evaluating intelligent personal assistants for L2 listening and speaking development. *Language Learning & Technology*, 24 (1), 16–26. <https://doi.org/10125/44705>
- Efverlund, Y. & Anyadi, M.** (2022). Briefly put, authenticity makes it more interesting! : A study of the role of authentic written communication (Dissertation). Retrieved from <https://urn.kb.se/resolve?urn=urn:nbn:se:mau:diva-50589>
- Freytag, A.** (2018). Les îlots immersifs au primaire : une pratique pédagogique transcurriculaire. In : F. Caspani, V. Manna, V. Todisco & M. Trezzini (eds.), *Mehrsprachiger Unterricht im Fokus. Atti del Convegno sui modelli d'insegnamento veicolare delle lingue straniere*. Chur: Pädagogische Hochschule Graubünden, pp. 184–195.
- Freytag, A.** (2019). Les documents dans les îlots immersifs : authenticité et authentification. *Revue TDFLE*, 74. [https://doi.org/10.34745/numerev\\_1369](https://doi.org/10.34745/numerev_1369)
- Gajo, L., Steffen, G., Freytag, A., & Vuksanovic, I.** (2018). Quelle frontière entre enseignement bilingue et enseignement de la langue orienté vers le contenu ? Insertion curriculaire et moyens d'enseignement. *Babylonia: revue pour l'enseignement et l'apprentissage des langues*, 2, 26–31.
- Huang, X., Zou, D., Cheng, G., Chen, X. & Xie, H.** (2023). Trends, Research Issues and Applications of Artificial Intelligence in Language Education. *Educational Technology & Society*, 26 (1), 112–131.
- LCH.** (2024). *Künstliche Intelligenz in der Schule: Chancen nutzen, Herausforderungen meistern*. Positionspapier des Dachverbands Lehrerinnen und Lehrer Schweiz.
- Lee, S.-M.** (2019). The impact of using machine translation on EFL students' writing. *Computer Assisted Language Learning*, 33 (3), 157–175. <https://doi.org/10.1080/09588221.2018.1553186>
- Meyer, E. & Wessels, D.** (2023). Natural Language Processing im akademischen Schreibprozess - mehr Motivation durch Inspiration? Positionspapier basierend auf einer Fallstudie an der Fachhochschule Kiel. In: Schmohl, T., Watanabe, A. & Schelling, K. (eds.), *Künstliche Intelligenz in der Hochschulbildung. Chancen und Grenzen des KI-gestützten Lernens und Lehrens*. Bielefeld: transcript 2023, pp. 227–251.
- Perrin, R., Diederich, C., Wild, S. & Grimm, L.** (2022). Überzeugungen von Lernenden der Sekundarstufe I zur Nützlichkeit der Übersetzungstools DeepL und LEO für die Wortschatzarbeit im Fremdsprachenunterricht. *Babylonia: Journal of Language Education*, 1, 38–41. <https://doi.org/10.55393/babylonia.v1i.156>
- Perrin, R., Wild, S., Diederich, C. & Grimm, L.** (2021). Digitale Übersetzungstools im Fremdsprachenunterricht der Sekundarstufe I. Nutzung von DeepL und LEO aus der Sicht von Lernenden am Beispiel einer Schreibaufgabe. In: Juska-Bacher, B., Brugger, L., Fischer, A. & M. Röthlisberger M. (eds.), *Defining, assessing and fostering vocabulary skills*, Bulletin VALS-ASLA, pp. 113–129.
- SBFI.** (2019). *Herausforderungen der künstlichen Intelligenz*. Bericht der interdepartementalen Arbeitsgruppe «Künstliche Intelligenz» an den Bundesrat. Staatssekretariat für Bildung, Forschung und Innovation.
- Schmohl, T., Watanabe, A., Fröhlich, N. & Herzberg, D.** (2020). How can artificial intelligence improve the academic writing of students? In: Pixel (eds.), *Conference proceedings. International conference "The future of education", 10th edition*. Florence, Italy, 18–19 June 2020. Bologna: Filodiritto Editore, pp. 168–171.
- Tafel, K., Durić, R. Lemmen, R., Olshevska, R. & Przyborowska-Stolz, A.** (2009): *Slavische Interkomprehension. Eine Einführung*. Tübingen: Gunter Narr Verlag.
- Wespi, C., Luthiger, H. & Wilhelm, M.** (2015). Mit Aufgabensets Kompetenzaufbau und Kompetenzförderung ermöglichen. *Haushalt in Bildung & Forschung*, 4, 31–46.
- Woo, J. & Choi, H.** (2021). Utilizing Machine Translation Systems to Generate Word Lists for Learning Vocabulary in English. *Journal of Digital Contents Society*, 22 (1), 71–75. <https://doi.org/10.9728/dcs.2021.22.171>
- Zhang, Z. & Huang, X.** (2024). The impact of chatbots based on large language models on second language vocabulary acquisition. *Heliyon*, 10. <https://doi.org/10.1016/j.heliyon.2024.e25370>