

Learning German from a Prompt-Based Perspective

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Abstract The integration of Generative Artificial Intelligence (GenAI) in language education raises questions about learners' interaction with AI during meaning-making processes. This qualitative study, conducted in a German as a Foreign Language workshop for upper secondary students, investigates Prompt-Based Learning in AI-supported language production. Analysis of worksheets documenting prompting, output evaluation and reflection shows that human-AI interaction is an iterative process of negotiation, refinement and evaluation. Findings highlight Prompt-Based Learning as a metacognitive framework fostering language learning, critical thinking, collaboration and media literacy.

Keywords Prompt-Based Learning. Generative AI. Human-AI collaboration. German as a Foreign Language. Media Literacy.

Sommario 1 Introduction. – 2 Theoretical Framework. – 3 Workshop Description. – 4 Methodology. – 5 Data Analysis. – 6 Discussion and Conclusion.



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1 Introduction

In the Italian school context, the study of German is often characterised by a widespread perception of difficulty, which can negatively affect learners' motivation (Dörflinger, Atz 2020).¹ In this scenario, it is important to intervene not only at a cognitive level, but also at an affective one, through meaningful and engaging activities that foster a more positive relationship with the language.

This contribution builds on a previous study that investigated, through a pre- and post-questionnaire (T0-T1), students' perceptions of German and their level of awareness in using generative AI within a workshop addressed to upper secondary school students. The findings suggested a moderate reduction in perceived difficulty and a generally stable positive interest in learning German, alongside indications of greater awareness regarding the use of tools such as ChatGPT for the collaborative co-creation of a digital artefact, with potential implications for the development of 21st-century skills (World Economic Forum 2016; Cosgrove, Cachia 2025).

Building on these results, the analysis shifts the focus from outcomes to processes, specifically examining how learners interact with AI during language production. Drawing on the analysis of the worksheets, which document task definition, prompting, output evaluation, and reflection, the study explores how Prompt-Based Learning (Adorni 2026) frames the prompt as a cognitive artefact through which learners shape linguistic output by defining constraints, objectives, and context, engaging in iterative processes of negotiation and refinement. Against this background, the paper adopts a qualitative approach, focusing on the co-construction of artefacts in German mediated by AI.

The study is guided by the following research question: *What negotiation dynamics emerge in the use of generative AI during the co-construction of artefacts in German?*

¹ In the preparation of this work, the author made use of ChatGPT (OpenAI) to paraphrase and revise the text, with the aim of improving clarity and overall writing quality. After using this tool, the author carefully reviewed and edited the content as needed and takes full responsibility for the final version of the publication.

2 Theoretical Framework

2.1 Prompt-Based Learning between Language Learning and Media Literacy

Large Language Models (LLMs) are emerging as promising tools for language learning. Recent evidence shows that they can support conversational practice through dialogic simulations, ranging from everyday interactions to more specific contexts, while providing immediate feedback in a non-judgmental environment that reduces learners' anxiety (Barrot 2023; Chiu et al. 2023; Oranga 2024). In addition, they contribute to vocabulary expansion, the comprehension of complex texts, and written production in L2 (Kohnke et al. 2023; dos Santos et al. 2023).

In the domain of writing in particular, a shift in perspective is increasingly evident: AI is no longer viewed solely as a corrective tool, but rather as a *learning buddy*, a dialogic partner that supports idea generation without replacing the learner, while fostering reflection and revision (Spannagel 2025). This approach is especially relevant in light of the widespread but often non-strategic use of AI by students (Varriale, forthcoming), which does not necessarily translate into actual competence. From this perspective, AI also represents an opportunity for the development of media literacy, understood as the ability to critically analyse, evaluate, and re-elaborate digital content.

Within this perspective, Prompt-Based Learning (Adorni 2026) views prompts as cognitive artefacts through which learners define context, objectives, and audience, engaging in an iterative process of generating, evaluating, and refining AI outputs. The educational value lies not in the final product itself but in the interaction and reflection that accompany its development.

This perspective aligns with the DigComp 3.0 framework, which places problem solving at the core of digital competence (Cosgrove, Cachia 2025), as well as with the principles of Cyber Humanism, according to which technology does not replace the human subject, but enhances cognitive and reflective capacities.

In the workshop described in this study, the adopted approach is consistent with this model:² as will be shown in the analysis, AI was not used as a *one-shot* tool, but as part of an iterative cycle in which learners could evaluate and refine outputs. Moreover,

² Similar principles of prompt-based interaction, iterative revision, and output evaluation were adopted in the development of a framework integrating Computational Thinking and Generative AI for CLIL writing task design (Ferroglia, Storace, Varriale 2025).

collaboration played a central role: working in small groups, students co-constructed prompts, critically discussed outputs, and shared decisions, turning interaction with AI into a space for peer negotiation and learning.

2.2 The ESA Model as a Framework for Integrating Prompt-Based Learning

The co-creation of a digital artefact represents the final stage of a teaching sequence structured according to the Engage-Study-Activate (ESA) model. Proposed by Harmer (1998), this model organises the learning process into three interconnected phases, each fulfilling a specific function within the overall instructional progression.

The Engage phase represents the initial contact with the target content and aims to create the conditions for effective learning. The teacher proposes brief, stimulating and meaningful activities – such as watching a video, listening to a song, or participating in a team-based quiz – with the goal of fostering curiosity and engagement, without immediately focusing on linguistic accuracy.

The Study phase is devoted to focusing on language forms. Students are guided to observe and systematise structures and vocabulary, concentrating on how the language is constructed. This phase includes explanation, guided discovery and controlled practice activities, carried out individually or in groups, and aimed at consolidating sounds, grammatical and syntactic structures, as well as discourse organisation.

Finally, the Activate phase is the stage in which learners put into practice what they have learned by using the language to complete authentic tasks. More specifically, they are required to mobilise their linguistic repertoire in activities characterised by a low degree of control, such as role-plays (e.g. simulating real-life interactions), discussions and debates, collaborative writing tasks, or creative activities like story and poem writing. Other examples include designing short communicative products (e.g. advertisements) or interactive tasks such as “Describe and Draw”, where learners must convey meaning effectively to achieve a shared goal. These activities function as a “rehearsal for the real world”, enabling learners to transform acquired knowledge into effective communicative competence.

Within the workshop described in this study, the integration of generative AI does not represent an external addition, but is coherently embedded within the Activate phase, where it supports the production and collaborative co-construction of a digital artefact in German (e.g. a comic or a presentation), fostering processes of

negotiation, refinement and problem solving. The following section provides a more detailed description of the workshop.

3 Workshop Description

The workshop, with a total duration of 5 hours (2 + 3), was designed as an introductory course to German, integrated with the use of generative AI.

In the first session, an ice-breaking activity was proposed to foster mutual acquaintance and to elicit students' opinions and experiences related to learning German. In particular, through the metaphor of vehicles, participants were invited to represent their relationship with the language: the *microcar* indicated a cautious and gradual approach; the *SUV* a fast and determined learning style; the *campervan* an exploratory attitude; the *supercar* a perception of already having a good command of the language; and the *truck*, finally, the need for a more guided and structured learning path. This activity made it possible to identify the initial profile of the class.

Subsequently, an initial questionnaire (T0) was administered to investigate participants' perceptions of German and their level of awareness in using artificial intelligence. This was followed by a Mentimeter activity, in which students shared German words they already knew, prompting a reflection on the presence of German in international and Italian vocabulary, and leading into an introduction to the DACHL countries.

On this basis, the Engage-Study-Activate phase [tab. 1] was implemented, focusing on the introduction of greetings and self-presentation in preparation for the creation of a digital artefact. The cycle concluded with a plenary discussion, during which each group presented and commented on its work and received feedback from the instructor.

Subsequently, German compound words were introduced (Leonardi 2025): first through an association activity, and then through an explanation of the compositional mechanism, including the distinction between determinative and copulative compounds, with a focus on *Grundwort* and *Bestimmungswort* (Flinz 2024).

The workshop concluded with the administration of a final questionnaire (T1), which is not analysed in the present study and was aimed at detecting possible changes in students' perceptions of the language and their use of AI.

Table 1 Description of the activities for each phase of the ESA model

Phase	Description
Engage	Introduction to linguistic content through authentic materials (episodes from the series <i>Nicos Weg</i>): greetings, self-presentation, and numbers from 1 to 20. During the viewing, students were invited to participate freely by sharing what they were able to understand, thus fostering active engagement and contextualised learning.
Study	Further work on sounds and basic structures (verbs <i>heißen, sein, kommen, wohnen</i>) and vocabulary for self-presentation. Consolidation was carried out through a Memory game created with Wordwall. An introduction to prompting was also provided, focusing on the clear and unambiguous formulation of requests (5Ws), with particular attention to defining context, objectives, and audience (Adorni 2026; Dornburg, Davin 2024; Giray 2023; Badino, D'Asaro, Pedrazzoli 2024), as well as to issues such as output unpredictability (Dornburg, Davin 2024), potential biases, and data privacy (Yechuri 2024). The iterative nature of interaction with AI was also emphasised, highlighting the role of follow-up cycles in refining generated outputs.
Activate	Group work for the creation of a digital artefact (comic, poster, or video) focusing on self-presentation in German. AI was used to support brainstorming and content generation (e.g. images), while the final product was created using digital tools such as SimpleShow and Canva. The activity promoted authentic language use as well as peer collaboration.

For the creation of the artefacts, a range of digital tools was selected and made available to students, with the aim of offering multiple modes of expression and fostering autonomous choices based on the groups' preferences and competences.

In particular, Book Creator enables the creation of multimodal digital books, allowing the integration of text with images, audio, and video. SimpleShow allows users to produce animated videos from a script, facilitating the transformation of written text into visual sequences accompanied by narration. MakeBeliefsComix, in turn, is an intuitive tool for creating digital comics, particularly suited to representing dialogues and communicative situations. These tools are complemented by Canva, which allows the creation of posters and presentations through easily customisable templates, and Padlet, used as a shared digital board for collecting and presenting students' work, thus promoting sharing and peer interaction.

Such an approach has implications both at the affective level³ and in terms of inclusion. In line with the principles of the Universal Design for Learning (UDL) (CAST 2024) – multiple means of representation, action and expression, and engagement – the use of diverse tools broadens access to content and modes of expression, thereby addressing learners’ different needs and learning styles.



Figure 1 Group 2's work

4 Methodology

The present study is situated within a broader research project. In the previous phase, a pre- and post-intervention questionnaire (T0-T1) combining Likert-scale items and open-ended questions was administered. The instrument explored two main dimensions: learners’ affective attitudes towards German as a foreign language (e.g., perceived difficulty, anxiety related to speaking) and their awareness of the role of generative AI in language learning. The open-ended questions further elicited students’ reflections on the potential contribution of AI and digital tools to their learning

³ Arnold 1960; Krashen 1982; Fabbro 1996; Daloiso 2009; Balboni 2013.

experience. While that study adopted a mixed-methods approach focusing on learners' perceptions, the current investigation takes a qualitative perspective, examining learners' interactions with LLMs during the co-creation of a digital artefact in German.

The workshop involved a total of 35 students enrolled in upper-secondary education, organised into five working groups. Participants represented different geographical areas of Italy as well as diverse upper-secondary school tracks. The online format enabled the participation of students from multiple educational contexts nationwide.

The dataset consists of worksheets completed during the Activate phase of a teaching sequence based on the ESA model. These worksheets, designed as a support tool for Prompt-Based Learning, structure and make the activity observable through four sections: (1) Task definition, (2) Prompting strategies, (3) Output analysis and epistemic control, and (4) Reflection and metacognitive awareness. All data were collected and processed in anonymised form.

These sections do not merely function as an operational guide, but also constitute the units of analysis of the study: each allows for the observation of specific dimensions, from the definition of the communicative context to the formulation and revision of prompts, as well as strategies for evaluating outputs and metacognitive reflection. The analysis was conducted through thematic coding across these four dimensions, with particular attention to negotiation dynamics between learners and AI, as well as to collaborative peer interactions. From this perspective, the focus is not on the final product, but on the ways in which learners construct, revise, and adapt linguistic outputs.

5 Data Analysis

The qualitative analysis of the digital artefacts and the design worksheets completed by the five groups provides concrete insights into the learning dynamics that emerged during the Activate phase of the workshop. The task framed AI as a dialogic partner, and the examination of the worksheets clearly highlights the effectiveness of Prompt-Based Learning. The following sections present an overview of the findings for each phase of the process.

5.1 Task Definition

Most groups chose to create digital comics, while one opted for a presentation, using tools such as MakeBeliefsComix and Canva. It is noteworthy that, at this stage, the use of AI was not mandatory:

groups could independently decide whether and how to integrate it into their work. This degree of autonomy made an initial phase of negotiation visible, in which students discussed format, objectives, and modes of implementation, defining the task before interacting with the system.

5.2 Prompting Strategies

The analysis of the worksheets shows that prompting does not take the form of a one-shot interaction, but rather of a structured practice in which different functions may converge, such as task clarification, exploration, item generation, refinement, and evaluation (Scala, Varriale 2026).

A first significant example, drawn from Group 1, consists of an initial prompt such as: “I am a German teacher and I would like to create a three-scene comic about self-presentation between two people in a formal context”, followed by a more targeted refinement request: “Use simple language suitable for lower secondary students who are being introduced to German”. This illustrates how students progressively evaluate the generated outputs and subsequently introduce more specific constraints when needed.

A second example, from Group 3, shows a more articulated use of prompting: “Create an imaginary dialogue with 2 or 3 people, where one is a newly transferred middle school student and the other is the teacher [...]. Use a formal tone with the teacher and a more informal one with the classmate. Make the conversation suitable for A1 level”. Here too, the interaction develops through further refinements: “In the playground scene, replace the questions ‘Do you like the school?’ and ‘Are you new?’ with ‘Where are you from?’ and ‘How old are you?’”. As evidenced by this refinement attempt, students intervene on specific elements of the dialogue, replacing less relevant content with linguistic structures aligned with what had been covered in class. Prompting thus becomes a tool for bringing the output back within the boundaries of the syllabus.

In other cases, such as Group 4, prompting takes on an exploratory function: “Suggest possible themes for the comic and how to design it in Canva”. Here, AI is used to generate ideas and guide the initial phase of the task, while students remain responsible for selecting and developing the proposals.

Finally, Group 5 stands out for a particularly structured use of prompting, combining precise constraints with openness to creativity. The prompt defines the task in detail (“Create a presentation using expressions related to greetings and self-presentation, including name, age, and origin [...] Each slide should include two people interacting”). Students complement the request with a complete

script and include a specific output indicator (“Make it as creative as possible”), in line with prompt engineering principles (Giray 2023). In this case, learners maintain strong control over linguistic content, while relying more on the system for stylistic elaboration.

Despite these different approaches, a common feature across all groups is the iterative nature of interaction: rather than a single, definitive request, the activity unfolds through successive attempts, adjustments, and refinements.

5.3 Output Analysis and Epistemic Control

The “Keep/Remove/Refine” section represents a key component from a pedagogical perspective, as it makes visible the epistemic control exercised by students. Across all groups, the main issue concerns the linguistic complexity of the outputs, which often do not align with the A1 level: for instance, Group 1 noted that the initial language level of the generated content was relatively high. As a result, the group retained ‘characters, scenes, and context’, while intervening to make the sentences ‘simpler and more consistent with what had been covered in class’.

Group 4, by contrast, carried out a thematic selection, maintaining the idea of ‘false friends’ and discarding less relevant suggestions in favour of an ‘intercultural dialogue’. Group 5, finally, reported retaining the linguistic content in full, focusing primarily on the stylistic aspects of the presentation.

These findings show that revision does not occur uniformly, but operates across different dimensions: linguistic, content-related, and stylistic. In some cases, students intervene by issuing new prompts; in others, they directly modify the text or select among the alternatives generated by the LLM. In all cases, however, the output is not accepted uncritically, but is instead evaluated and adapted.

This suggests a dynamic of epistemic control in which AI is not treated as an authoritative source, but as an interlocutor from which material can be drawn and reworked. The inadequacy of the output thus becomes an opportunity for learning and for activating prior knowledge, particularly with regard to linguistic level and the structures actually addressed in class.

5.4 Reflection and Metacognitive Awareness

The final sections highlight difficulties, opportunities, and learning outcomes. Reported difficulties include both linguistic aspects (e.g. outputs that were too advanced) and technical issues (e.g. the use of platforms and tools). The opportunities, on the other hand, mainly

concern the ideational and organisational support provided by AI, which is perceived as useful for generating ideas and initiating the task.

Students' reflections reveal an increasing awareness of their interaction with AI: they recognise the need to provide clear instructions, to critically analyse outputs, and to intervene iteratively. In particular, the idea emerges that the system "needs guidance to improve" and that it is important "not to stop at the first difficulties".

Overall, the data show that interaction with AI takes the form of an iterative and negotiated activity rather than a one-shot use. Moreover, collaboration plays a central role: prompt construction, output revision, and final decisions are shared within groups, fostering peer discussion and collaborative learning.

6 Discussion and Conclusion

The present study extends previous research that examined, through a pre- and post-design, the impact of a generative AI-based intervention on students' perceptions of German and their awareness in using digital technologies. In that context, the findings suggested a moderate reduction in perceived difficulty and a generally stable positive interest in learning German, along with greater awareness of the use of tools such as ChatGPT for the co-creation of digital artefacts. Although these results are not the focus of the present contribution, they provide a useful interpretative framework.

Starting from the research question – *what negotiation dynamics emerge in the use of generative AI during the co-construction of artefacts in German?* – the qualitative analysis has shown that interaction with AI takes the form of an iterative and negotiated activity, rather than a one-shot use. In line with Prompt-Based Learning (Adorni 2026), prompting emerges as a metacognitive practice through which students define constraints, reformulate requests, and progressively adapt the output.

These dynamics can be interpreted within the conception of AI as a *learning companion* (Luckin 2022), in which the user retains epistemic and ethical agency, and within the notion of *co-intelligence* (Sharples 2023), which describes a creative collaboration between human and artificial intelligence. Within this framework, interaction with AI does not merely support language learning, but also provides opportunities for the development of media literacy, understood as the ability to analyse, evaluate, and critically rework digital content.

An additional element that emerged during the plenary reflection concerns students' perception of the limited opportunities within the school context to engage in critical discussions about AI. In this sense, the workshop represented a meaningful space for reflection, offering concrete insights into a more conscious and informed use

of these tools. Overall, the findings suggest that the use of AI in language production tasks cannot be reduced to the mere adoption of a tool, but requires the development of reflective practices in which students evaluate and rework outputs. In this perspective, the planned implementation of a further workshop may provide an opportunity to expand the sample and collect additional data, thus supporting a more in-depth longitudinal analysis.

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