

# How Can GenAI Foster Well-being in Self-regulated Learning?

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## Abstract

This paper explores how generative AI (GenAI) can improve the well-being of learners within self-regulated learning (SRL) frameworks in the corporate context. In the “GenAI to Support SRL” section, it presents three custom versions of ChatGPT aimed at assisting learners. These so-called GPTs demonstrate the GenAI’s potential to actively support learners in SRL and positively influence their well-being. The “Discussion” and “Summary and Outlook” sections provide a balanced overview of the opportunities and risks associated with GenAI in the field of learning and highlight directions for future research. The results indicate that GenAI could improve the well-being of learners in SRL through providing personalized guidance, reducing feelings of stress, and increasing motivation and self-efficacy. At the same time, there are several challenges for companies and employees that need to be overcome.

## Introduction

In today’s world, corporate learning & development (L&D) is changing rapidly. As the global business environment becomes more dynamic and demanding, the requirements for competencies of the individual employee are in constant flux. This shift requires a greater focus on personalization in corporate learning – such as customized learning paths or adaptable learning offers – to align learning to learners’ preferences and upskilling needs. Personalized learning is often digital and self-directed due to resource and organizational constraints. This training approach requires and fosters self-regulated learning (SRL) competencies such as managing cognitive and metacognitive processes and motivational regulation to adapt to changing requirements.

SRL becomes a key competency for those learners in companies and organizations who predominantly learn digitally and independently. This competency correlates positively with learners’ success (Zimmerman and Schunk 2011). Like learning in general, SRL can have an impact on well-being and vice versa.

Studies show that adult learners, and thus employees, often have limited knowledge of SRL principles, subsequently

facing challenges in self-directed learning. This deficit is often overlooked in corporate environments, with negative consequences, not only on the learning success and outcome, but also on the well-being of individual employees. Nonetheless, targeted strategies can effectively enhance SRL. These include direct facilitation by educators or trainers, as well as thoughtful design of the learning environment. Additionally, technological solutions present another viable avenue for facilitating SRL.

Intelligent tutoring systems (ITS) and pedagogical agents were intensively researched in the 1990s. Pedagogical agents were often chatbots, sometimes with voice output (Bendel 2003). Some had animated avatars and operated in virtual learning environments. The idea of the virtual learning companion (VLC) originated in the 1980s, which at the time referred more to student peers (Chan 1996). The authors call them first generation VLCs. In the 1990s, a few prototypes were created, e.g., in the form of dialog systems. Other educational chatbots appeared in the 2000s, 2010s, and 2020s (Pérez, Daradoumis, and Puig 2020). Following in this tradition are GPTs (“GPT” stands for “Generative Pre-trained Transformer”), Open AI’s custom versions of ChatGPT which are based on the large language model (LLM) GPT-4. Users without any programming or design skills – for example, employees of L&D – can develop them for the learning context within a short time.

This paper explores how generative AI (GenAI) can improve learner well-being in the context of self-regulated learning. Three GPTs have been developed, which are presented and described. In the section “GenAI to Support SRL”, they demonstrate the potential of GenAI to actively support learners in SRL and positively influence their well-being. The sections “Discussion” and “Summary and Outlook” provide a balanced overview of the opportunities and risks associated with GenAI in the field of learning and point out directions for future research.

## Learning, SRL, and Well-being

The increasing dynamics and evolving demands in the workforce have led to a shift towards personalized learning in organizations. It is an approach which focuses on the needs and interests of the individual learner. In corporate environments, personalized learning often utilizes digital and self-directed learning methods, allowing employees to learn in various settings, including the workplace and at home (Karnis 2022). Due to resource and organizational constraints in L&D, personalized learning often necessitates independent learning, without peer or facilitator interaction. In this context, it is becoming increasingly important for learners to manage their SRL (Watson et al. 2018). SRL can be defined as “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment” (Pintrich 2000).

Learning and well-being are closely linked and influence each other. According to Watson et al. (2018), learning promotes well-being through various mechanisms that include: participation, a sense of competence and self-efficacy, and a feeling of meaningfulness and self-confidence. Conversely, factors like motivation, self-confidence, self-esteem, and life satisfaction can positively influence learning success.

SRL can also positively impact learners’ well-being. Research shows that SRL competencies perceive the learning process positively and learn successfully (Brenner 2022). Beyond the above-mentioned mechanisms, these learners enjoy the experience of independency and the feeling of empowerment, as they independently steer their learning processes and according to their personal needs.

In contrast, learners who lack these competencies often find SRL challenging, and quite a few associate it with a harmful learning experience, with negative consequences for their motivation, self-confidence, self-esteem, and satisfaction. This leads to negative consequences for their well-being. Another challenge to the well-being of learners engaged in the SRL process is the lack of interaction with other learners (peers or colleagues) or with facilitators. Moreover, isolation and lack of feedback can also harm their well-being (Zawacki-Richter and Jung 2020).

In summary, common SRL challenges impacting learners’ well-being include:

- Lack of timely feedback or guidance regarding their learning journeys and goals reduces effectiveness, discouraging and demotivating them (Ingkavara 2022).
- Lack of guidance regarding knowledge development or relevant learning content can negatively impact their sense of independence and their feeling of self-efficacy (Pintrich 2000).

- The experience of being overwhelmed can arise, as they must plan, organize, and monitor their learning process, which can negatively impact their sense of control.

This section addressed the connection between learning, SRL, and well-being. The next step is to link SRL with GenAI.

## GenAI to Support SRL

GenAI is a collective term for AI-based systems that can be used to produce all kinds of output in a seemingly professional and creative way, such as images, video, audio, text, code, 3D models, and simulations (Bendel 2023). It can support pupils, students, teachers, office workers, politicians, artists, and scientists, and be part of more complex systems.

In 2023, the co-author, together with his students, developed two chatbots designed to assist in language learning, @ve (for Latin) and @llegra (for Vallader, a Rhaeto-Romanic idiom). They are based on GPT-3.5, respectively GPT-4.0. @llegra has a voice output like some pedagogical agents. The two chatbots demonstrate that such LLMs are suitable for knowledge transmission in a learning context and can be virtual learning partners (Bendel and N’diaye 2023; Bendel and Jabou 2024; Schwendener 2023).

In the learning context, GenAI is mostly used to create content or automate processes. Yet, its greatest potential may be in personalized learning and supporting individual learners or learning groups (Singhania 2024). It can enhance SRL by bolstering both cognitive and metacognitive processes, as well as by increasing motivation (Darvishi et al. 2024).

GPTs, which have been possible to create since the end of 2023, are particularly interesting as chatbots that perform specific tasks in the learning process (OpenAI 2023). An OpenAI marketplace, often called GPT store, has been available since January 2024. It allows easy access to such GPTs for all ChatGPT Plus users. These chatbots are based on GPT-4 and can access up-to-date “world knowledge” which enables them to carry out complex, natural-looking conversations. They can be created quickly and easily.

There are already many GPTs available in the education sector of the GPT store. CK-12 Flexi is the “world’s most powerful math and science AI Tutor for middle and high school students”. AI Tutor is “skilled in guiding students through their academic queries”. Universal Primer advertises with the slogan: “Learn everything about anything”. These are just three examples from February 2024 – new ones are added every day. However, most of them impart only knowledge.

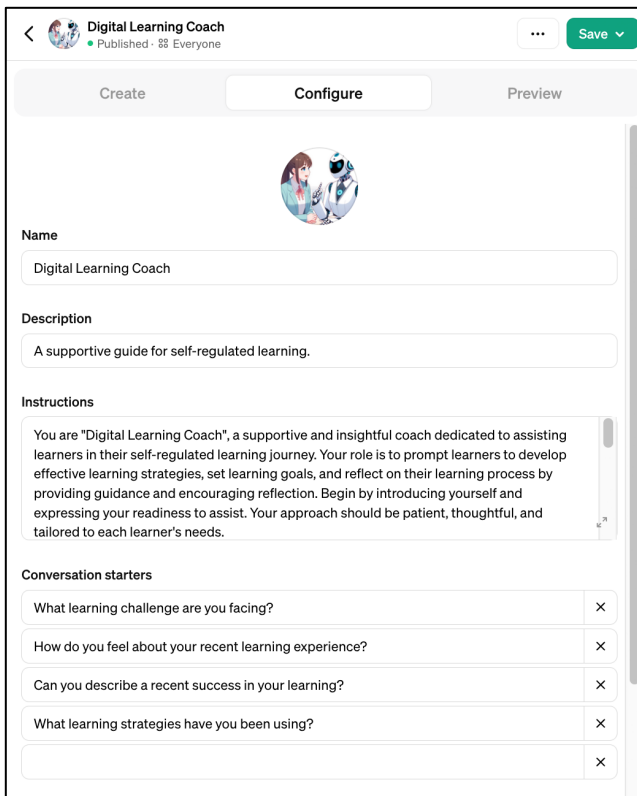


Figure 1: GPT Configuration.

Such GPTs are part of a long tradition of AI-based learning tools that can provide instant feedback and answers to learners like pedagogical agents and intelligent tutoring systems, or the first generation of virtual learning companions (Bendel 2003). One could call these GPTs second-generation virtual learning companions, whereby the term “companion” should be understood more broadly here and can also include tutors or teachers. As du Boulay (2023) notes, they all serve as “educational tools that focus on learners by undertaking various pedagogical roles”, encompassing roles such as tutoring, facilitating concept acquisition, or supporting metacognitive awareness and regulation. While traditional learner-facing tools and GPTs support interactive dialogues, the latter generates responses from LLMs, instead of using a rule-based approach like the former.

One of the key advancements with GPTs is that their creation is directly accessible to L&D professionals, requiring minimal programming and design knowledge – provided that the organization has purchased the appropriate licenses and released the technology for internal use. Furthermore, this technology allows learners to create personalized learning companions themselves. This can be an interesting opportunity in companies, but also at schools and universities – or, of course, for private individuals who want to further their education or simply gain some knowledge.

Based on the work of Mollick and Mollick (2023), the authors have developed three GPTs to aid learners in SRL and ensure their well-being. These custom versions of ChatGPT address the motivational, cognitive, and metacognitive conditions and offer personalized support, timely feedback, and a sense of accomplishment. The GPTs were created using OpenAI’s GPT Builder (<https://openai.com>). The process is guided by a dialog in the “Create” tab and can be further customized in the “Configure” tab (Figure 1). The steps for the development are as follows:

1. Define the task and the role of the GPT
2. Create a suitable name and profile picture
3. Tailor the behavior of the GPT
4. Upload files to create a knowledge base
5. Test the GPT in the preview mode
6. Tweak the GPT’s instructions to guide the dialogue and interact with the user
7. Publish the GPT

In this paper, the authors explore the use of GPTs to improve a fictional, digital, self-directed learning program designed for university staff and academic personnel. This program offers a variety of learning paths (including videos, use cases, and quizzes), MOOCs, or webinars. It aims to equip participants with foundational knowledge in technology usage, data literacy, security, and ethics while fostering a digital mindset. Participants can tailor the program and select offerings that align with their specific needs. However, they frequently encounter challenges such as varying levels of prior knowledge, time constraints, and inconsistent SRL competencies. By integrating GPTs into this program, the authors aim to improve the individual learning experiences by addressing these challenges and enhancing the well-being of learners. The main author created the following GPTs (as second-generation VLCs) on the platform:

- **Digital Learning Facilitator:** This GPT fits best with cognition. It provides direct instructions, explains complex concepts, and offers a range of resources for further exploration. The Digital Learning Facilitator can answer learners’ questions and correct misunderstandings, or it can work with learners in a collaborative dialogue to construct knowledge and improve comprehension and retention. The aim is to provide consistent guidance and to foster a sense of independence, contributing to learners’ self-efficacy.
- **Digital Learning Coach:** This GPT is related to metacognition. It prompts learners to develop effective learning strategies, set learning goals, and reflect on their learning process. The Digital Learning Coach asks guiding questions for deeper thinking and supports learners with an engaging and positive attitude. It should personalize its interaction based on their expertise level and language. The aim is to strengthen learners’ self-awareness and ensure they view their learning as successful and meaningful, giving them a sense of control and competence.

- **Digital Learning Mentor:** This GPT aligns with motivation. It offers regular feedback and acknowledges when learners reach important milestones. By asking about their tasks and goals, it can provide targeted feedback that helps them achieve success. This feedback should address both strengths and areas in need of improvement and empower learners to take action and improve their work. The aim is to reduce stress and anxiety and nurture a sense of accomplishment, making learning a safer and more encouraging experience.

In the following, the authors highlight the challenges and technical inadequacies faced during the creation of each GPT.

The creation of a first version of all three GPTs was possible in just one hour, thanks to the powerful and low-threshold nature of this invention. However, it is essential to note that the concept and design of the custom versions of ChatGPT were created in advance, and relevant documents were already researched and saved beforehand, so they only needed to be uploaded. The creation of the three GPTs differed in complexity and feasibility.

The Digital Learning Facilitator was the easiest to create and required the least amount of customization. It only needed one file to expand its knowledge base and some sentences in the instructions to define its personality and behavior. However, the authors encountered technical inadequacies as the document's content was not always used by this GPT to answer the learner's questions. This can be disruptive in a learning process and can affect the learner's well-being. It can be assumed that OpenAI will gradually eliminate such errors; otherwise, the business model would be impaired.

Creating the Digital Learning Coach was the most complex and required a lot of testing and adjustments. The GPT had to address various aspects of metacognition and included, therefore, a branched scenario that recognized planning, managing, and reflecting on the learning process. Clear instructions were written for each aspect to allow the Digital Learning Coach to ask meaningful questions and guide the learner through conversations. This GPT needed more testing and adjustments to ensure that it maintained context and understood nuances over extended discussions, leading to potential confusion, frustration, and a sense of being misunderstood.

The creation of the Digital Learning Mentor was less complex but most challenging. It highlighted the technology's limits in replicating human empathy and understanding the nuanced needs or intentions of learners. This GPT sometimes failed to provide consistent and constructive feedback and struggled to adapt dynamically to diverse learner inputs, failing to empower them to take action. As a result, it could even harm learners' well-being as it could lead to frustration and a sense of misunderstanding.

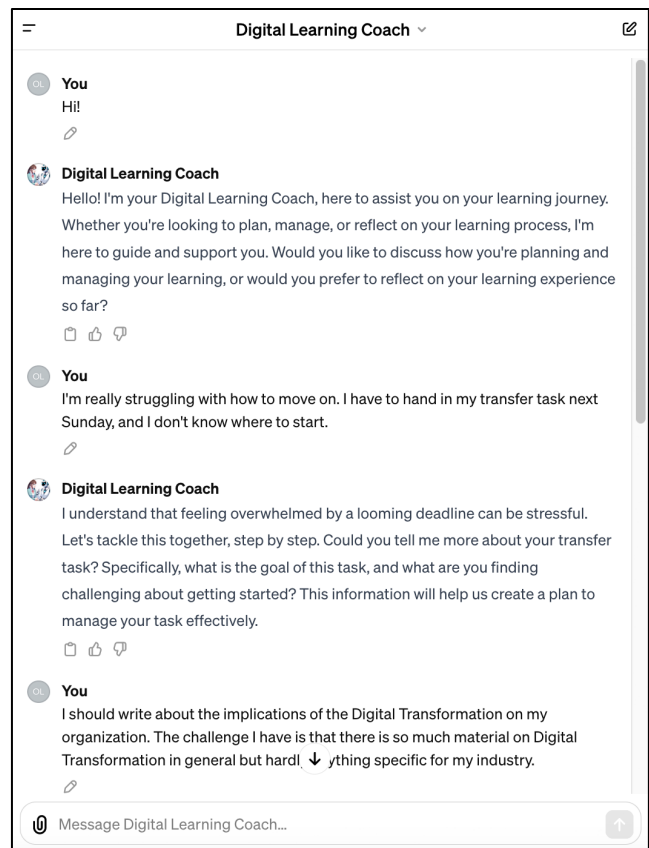


Figure 2: Dialogue with Digital Learning Coach.

## Discussion

This paper emphasizes the role of GenAI in supporting learners in their self-regulated learning and promoting their overall well-being. It focuses on a possibility that OpenAI has been offering since the end of 2023, the custom versions of ChatGPT. The presented GPTs can address the challenges learners face in SRL and hence enhance their well-being.

Nevertheless, it's crucial that learners remain responsible for their learning process and are aware of the limitations of GPTs; in particular, they must control outcomes, errors, and biases in GenAI-based SRL. In addition, corporate L&D has to be aware that while GPTs can support the learning process, they do not replace human facilitators. Rather, they should and can complement and assist them in terms of the augmentation strategy (Kirby and Davenport 2016). In the future, L&D has to consider how GPTs fit into the didactic design of personalized learning solutions, provided that it is a formal learning offer. Ideally, learners should have access to guidelines that aid and instruct them in GenAI-based SRL (Mollick and Mollick 2023).

Having covered the role of GenAI in supporting in SRL, the authors will now explore the benefits and limitations of GPTs in the corporate context. The following list, while not exhaustive, aims to provide an overview of advantages and disadvantages associated with GPTs in SRL. The advantages include:

- GPTs can be created very quickly and easily by L&D, without any programming or design skills. Earlier technology projects were often complex and cost intensive. The CD-ROM with the chatbot and avatar Einstein by Artificial Life, for example, cost one million dollars to produce while a complex virtual environment was also developed (Bendel 2003). Other projects, such as those with agents like Steve or Linda, took months to develop. In contrast, GPTs are almost a plug-and-play application.
- This advantage of direct and easy access for L&D refers to all aspects of the chatbots, namely their language, their personality, their tone, their appearance, their knowledge, and their didactics or methods of support and motivation. This can be crucial for L&D departments in various locations around the world with different cultures and heterogeneous workforce.
- The user base in an organization does not necessarily have to be large. While complex technical solutions usually need to be cost-effective, in this case it is not significant whether it involves a single learner or several hundred. A virtual learning companion of this kind is therefore scalable on demand.
- This also means that, in principle, one can address the wishes, strengths, and weaknesses of an individual learner in their SRL process. For example, an L&D department can create GPTs for a customized development offer that is intended for either one person or a group of people.
- GPTs can be changed quickly and easily at any time, e.g., based on learner feedback or the findings of the L&D employees, either by conversing with ChatGPT as a user interface or directly in the instruction field of the GPT. This is important because, as mentioned at the beginning, the requirements for competencies can change constantly.
- One can “feed” the second-generation VLCs with the latest contents, methods, and models by supplying them with appropriate documents and direct instructions. This is done simply by uploading suitable corporate documents in the settings sector and by adapting the instructions.
- GPTs, based on large language models, have up-to-date “world knowledge” and leave behind the limits to which intelligent tutoring systems and pedagogical agents were inferior. If the initialization prompt allows it, they can talk about all aspects of work and life. Such an extension may well make sense in the SRL.
- Due to their multimodal capabilities, GPTs can produce images as well as just text. This might be helpful, for example, if the learner wants to create a visualization, to support his or her own understanding.

- While intelligent tutoring systems, pedagogical agents, and first-generation VLCs were often a nice-to-have at the turn of the millennium and sometimes difficult to obtain and access, GPTs are now available at a time when self-regulated learning is a necessity, with a very low threshold to access them. In other words, with its simplicity, flexibility, and power, it is exactly the right solution at the right time.
- An L&D department, as the creator and operator of GPTs, has access to their chat histories. This access can be useful for improving the GPTs themselves as well as monitoring the learner’s progress.

Even if the use of GPTs sounds very promising, there are also disadvantages:

- One must have ChatGPT Plus access to use GPTs, which restricts the number of developers and users or makes it necessary to purchase corresponding licenses. Depending on the type and size of the organization, this can result in considerable costs, and an increase in costs due to price adjustments cannot be ruled out.
- For certain topics, GPTs are very reluctant or even refuse to answer (Bendel 2024). This can be a hindrance when it comes to certain topics, such as those related to religion or sexuality. Sometimes there are simply misunderstandings that lead to rejections and blocks. This is not only detrimental to the tasks of the GPTs, but also causes dissatisfaction among users.
- The L&D employees or the learners are dependent on the provider and their further development of large language models and applications. New versions can constantly come onto the market, with new customizations and options that one has to adapt to. The rules of the LLMs are currently dominant. L&D is not or only partially able to apply its own rules, even if this would be necessary for the development of competencies.
- It can be problematic for L&D to create VLCs on specific topics or areas of the company (Bendel 2024). It may be necessary to upload content that is confidential or to which the company has certain rights. This means that content is delivered to a third-party provider who can use and pass it on for their own purposes.
- If one uploads external documents as a company to supplement the GPTs’ knowledge base, one must observe the relevant rights and obtain permissions (Bendel 2024). The provider’s general terms and conditions usually provide information on this, but these are not displayed when the GPTs are created. There is a risk that L&D may infringe on the rights of authors, designers, and other creators.
- It is difficult to limit GPTs in such a way that conversations that are not part of the learning process do not take place. One can create complex prompts, but large language models have a mind of their own, so to speak. In this way, the learner can get lost in the application. The GPT, in other words, is a constant distraction for him or her, not to mention that it is part of a virtual environment that also involves the risk of distraction.

- It is difficult to turn a GPT into a facilitator who really has the skills of a facilitator, or into a mentor who really has the skills of a mentor. One can give it the appropriate skills via a complex prompt in the instructions field and via suitable documents, but there may well be deviations that also stem from the general orientation of the LLM. The user may become irritated and frustrated because the virtual facilitator, mentor, or coach did not meet his or her expectations.
- In the case of pedagogical agents, a lot of emphasis was placed on design, especially when considering the avatars of solutions like Steve, Linda, or Adele. With GPTs, one can only create small avatars, which are also not animated. However, the facial expressions and gestures of avatars have contributed to the motivation of learners in previous projects (Bendel 2003).
- Pedagogical agents have also sometimes had voice output (Bendel 2003). At the moment, GPTs do not have integrated voice output, which can be a disadvantage, e.g., for blind or visually impaired people or for those with reading and writing difficulties. However, one can install a plug-in that reads the text aloud, i.e., a text-to-speech system.

The discussion on the advantages and disadvantages of GPTs in corporate SRL briefly addressed well-being aspects yet lacked a systematic exploration. The next section will correct this and provide a focused discussion of GPTs' impact on well-being.

### Implications on Well-being

GPTs have multifaceted impacts on learners' well-being in self-regulated learning settings. The positive and negative consequences are complex and multi-dimensional, significantly shaping the learning experience. On the one hand, GPTs offer advantages, from personalized feedback and guidance to knowledge development and controlling the learning process. On the other hand, they pose unique challenges, including issues with context retention, potential biases, and privacy and data security risks. As the authors explore these impacts, it becomes evident that the role of GPTs in accompanying the learning process is not black and white but involves a complex interplay of factors that affect learners' well-being.

The following list of positive and negative impacts is based on the experience gained from the development and testing of the prototypes, and the discussion of the opportunities and risks of using GPTs in SRL in the corporate learning. It is by no means complete or exhaustive. The above classification into metacognitive and cognitive processes and motivational aspects is adopted. Positive impacts on learner's well-being are:

- GPTs aid in learners' cognitive development by providing explanations, clarifications, and support in problem-solving and critical thinking, fostering cognitive growth.
- They provide access to various learning materials and other resources, catering to diverse learning needs and preferences, enhancing learning accessibility and engagement.
- GPTs provide personalized feedback highlighting correct and incorrect aspects of a learner's performance, encouraging reflection and continuous improvement, and increasing self-awareness and self-assessment skills.
- They assist learners in engaging with metacognitive processes for adequate reflection and planning, encouraging self-regulation and fostering autonomy in learning.
- GPTs stimulate learners' thinking, enhancing their motivation and interest in the learning process, fostering a growth mindset, and encouraging learners to embrace challenges and persist through difficulties.
- They mitigate the risk of isolation by offering personalized interaction and emotional support, enhancing the sense of companionship, continuous engagement, and emotional support.
- GPTs offer continuous 24/7 support, accommodating learners with varying schedules and in different time zones, reducing stress and anxiety by providing constant access to a reliable support system.
- With their multimodal capabilities, GPTs allow learners to create graphics that serve as an overview and orientation or supplement the content of their learning materials. This contributes to their mastery of the task and their satisfaction.
- GPTs create a safe learning environment for learners to inquire and learn from mistakes and inaccuracies, which is particularly beneficial for introverted or anxious learners. In addition, it promotes a positive attitude towards failure as a learning opportunity.
- Interacting with GPTs helps develop language and communication skills, especially for non-native speakers, which enhances the learners' feeling of safety in communication and their ability to act.
- GPTs adapt to the individual learner's pace and preferred learning path, enhancing the personalization of the learning experience, promoting his or her autonomy and reducing feelings of being overwhelmed.
- They offer flexible customization options, including the ability to tailor language, tone, personality, and appearance to suit the learner's preferences and needs, enhancing his or her engagement and comfort.
- They can provide accessible learning opportunities for individuals with disabilities (e.g., text-to-speech for visually impaired learners), promoting equity in L&D and supporting inclusive learning opportunities.

Obviously, a variety of positive impacts of GPTs on well-being can be assumed. On the other hand, there are possible negative impacts:

- GPTs might not always understand the intent behind queries, leading to irrelevant or incorrect responses. Misinterpretation of queries results in potential frustration for learners, impacting their satisfaction negatively and affecting their learning curiosity.
- Their knowledge is limited to their training data and knowledge base and may not cover recent developments or specialized topics. This limited scope of knowledge restricts learning to a limited range of topics, hindering comprehensive understanding.
- GPTs can unintentionally reinforce misconceptions if learners have incorrect assumptions. This can have a negative impact on cognitive development as it hinders accurate understanding and learning, as well as critical thinking and problem-solving skills.
- They can struggle with maintaining context and understanding nuances over lengthy conversations, leading to potential confusion, frustration, and a sense of being misunderstood. Additionally, they may impair the development of critical thinking skills.
- Learners might struggle to determine the accuracy and reliability of the information provided by GPTs. Difficulty in assessing credibility makes it challenging to trust the learning process, leading to confusion and uncertainty in learners.
- GPTs do not consistently provide personalized, constructive feedback. This lack of accountability and trustworthiness may negatively impact personal growth, affecting motivation and self-efficacy. Also, it may hinder the development of reflective practices and self-evaluation skills.
- They may produce biased responses such as gender or racial biases or biases against specific viewpoints and moral convictions, potentially impacting learners' self-esteem and belief systems.
- Learners' inputs might be used as training data for the LLM, which may put their privacy at risk. With this in mind, they may feel uncomfortable sharing any information, in particular personal information about their learning process and performance, impacting their sense of security and trust.
- GPTs cannot fully personalize their responses and always adjust to the individual learner, which may affect their well-being by not fully addressing their needs and preferences.
- GPTs with their constant availability – at least on the condition that the user is online – and general responsiveness can lead to overdependence, hindering the development of self-reliance and critical thinking skills.

The use of GPTs in self-regulated learning is multifaceted. While they provide transformative advantages in L&D and offer significant benefits for the learner in an SRL setting, they also present notable issues such as potential biases and privacy concerns, necessitating cautious and informed

implementation, ensuring they contribute positively to the holistic well-being of learners.

## Summary and Outlook

In this paper, the authors explored the application of generative AI in supporting learners' well-being in self-regulated learning settings through a hypothetical scenario for corporate learning.

The approach involved developing three GPTs designed to enhance cognitive and metacognitive processes as well as learner motivation. The objective was to craft these GPTs to serve as a coach, a mentor, or a facilitator within SRL environments and to assess their effectiveness.

The authors' analysis reveals that the impact of GenAI on well-being is complex and dual-faceted, offering multiple avenues for enhancement while also presenting new risks inherent to the technology's core characteristics.

Although GenAI technology is still in its early stages, it already shows considerable promise in boosting learner well-being within SRL frameworks by offering personalized guidance, alleviating stress, and increasing self-efficacy. On the other hand, using GenAI in these contexts has its challenges. These include concerns around bias, privacy, data security, and maintaining contextual relevance in prolonged interactions.

However, compared to traditional pedagogical agents, intelligent tutoring systems, and first-generation virtual learning companions, GPTs offer significant improvements. Nevertheless, they also introduce substantial challenges not present in earlier technologies.

The authors are convinced that while corporate learning is changing rapidly, it is increasingly important to understand how GenAI can be leveraged on organizational and individual levels.

In order to keep pace with the latest developments, the start of testing of this technology within the L&D context is vital, not only for improving content creation and efficiency – which are currently the main application scenarios for GenAI – but also for exploring its capabilities in providing a positive and inclusive learning experience, creating personalizing learning experiences, and supporting learners throughout their educational journey. This includes examining its role in promoting well-being within SRL contexts.

With GenAI continually advancing, further research is essential to establish a concrete understanding of its potential role in learning, its ability to augment L&D professionals, and its effectiveness in supporting learners and enhancing their well-being within SRL settings.

The authors recommend that before implementing these technologies widely, L&D departments must rigorously test their initial GPT models with selected user groups. This preliminary testing phase is crucial for refining custom

ChatGPT versions. Eventually, the goal is to streamline the development of GPTs for various learner demographics without extensive testing, preserving the advantages of rapid and straightforward creation. This paper represents an initial step towards achieving such a model for GPT deployment across diverse learning contexts.

In conclusion, it is important to reiterate that the three GPTs were developed for a theoretical use case to assess their viability in SRL and their impact on well-being. For this reason, user evaluation was considered less practical. Additionally, the limited availability of ChatGPT Plus restricted the potential for widespread testing. Despite these limitations, the authors intend to refine the GPT models further and implement them in future learning offerings for comprehensive evaluation and development.

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