Inclusive AI-Based Chatbots for Public Services in Finland: Potential of Constructivism

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Abstract

Despite innovative initiatives, digital gaps persist, necessitating optimal solutions for both customers and service providers, especially for multicultural societies. Grounded on the fundamental premise that every user of public services engages in ongoing digital literacy and cultural inclusion, this study advocates integrating constructivism learning theory and its principles into inclusive chatbot design for public services. Further, this paper proposes a paradigm shift in the role of chatbots, advocating for their evolution from mere autoresponders to mentors. Rather than merely retrieving information based on keywords, chatbots can proactively guide users through their digital journeys by employing findings from constructivism, a fundamental learning theory. Integrating principles of constructivism in chatbot design improves users' digital literacy by actively engaging them in the learning process. It ensures that the content and interactions are personalized, culturally sensitive, and flexible. A constructivist environment enables AI-based chatbots to evolve and adapt through user interactions. This approach is fundamental to the development of inclusive chatbots that cater to the diverse needs of all users. In essence, this paper offers actionable insights for practitioners and policymakers alike, emphasizing the importance of collaboration across disciplines to meet the diverse needs of users.

Keywords: AI-Based Chatbots, LLM, Inclusive Design, Migration, Constructivism, Public Services

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Introduction

During the past few decades, almost all countries have begun to adopt some type of digitalization strategy concerning public services. These strategies are seen by their proponents to provide numerous public benefits including, improvements to sustainability (Randall, 2017), improved and more communicative governance structures (Rackwitz & Palaric, 2024), and improvements in higher education (Haase & Buus, 2020). Despite such visions, studies also indicate that digitalization strategies can serve as a form of exclusion, particularly with migrants and older people (Buchert et al., 2023). Digital inequality increasingly concerns adopting ever more prevalent digitalization strategies (Helsper, 2021). Most recently, interest in the role of artificial intelligence, both as a national policy preoccupation and technology has taken center stage in these discussions (Lutz, 2019; Sartori & Theodorou, 2022). Within this domain, chatbots have played an important role in fostering inclusion and creating new forms of exclusion.

Chatbots are computer programs that emulate and interact with users using natural language processing (NLP), as well as pre-defined dialogues (Androutsopoulou et al., 2019; Shawa & Atwell, 2007). Chatbots, also called conversational agents (Lester et al., 2004) are used to understand the user's intent so that an answer can be provided based on a specific domain of knowledge. Although chatbots have been around for decades, the use of chatbots has become increasingly commonplace in both public and private service sectors, providing one avenue through which customers can seek relevant information to their queries. Public services see chatbots as one way of reducing the burden of service requirements concerning simple and repetitive questions. In this sense, they are seen as a cost-saving tool.

Accordingly, this paper investigated the opportunities and challenges of using chatbots in public services, with a focus on migrant users in Finland. Using examples from running public service chatbots in the City of Helsinki, we provide examples of how developing more inclusive methodologies can better account for user diversity and needs and thus help inform the design and implementation of chatbots based on LLM.

Methods and Material

The material for this paper is based on a research project entitled "Creating trustworthy and accessible digital public services for migrants" (Trust-M) funded by the Strategic Research Council (SRC) of Finland (2022–2028). Our goal is to explore how natural language processing can help migrant women better integrate through digital public services in Finland. In collaboration with the City of Espoo, we identified chatbots as a key tool for municipalities to provide information. While Espoo does not currently use chatbots, our research focuses on their potential, given their growing role in public and private services (Makasi et al., 2020; van Noordt & Misuraca, 2019). The City of Helsinki, for example, maintains and updates an AI registry that contains information on all the AI systems that the city has in use (https://ai.hel.fi/en/ai-register/). The register also contains anonymized information on data sets, such as conversation logs, which are used to train the models. This information can be used to train new models using LLM for example.

To explore the challenges and opportunities that chatbots provide we conducted two separate, but related sets of interviews. The first group of interviews, which consisted of 10 interviews, focused on how migrants interact with digital public services in Finland. The second set of interviews, which consisted of 9 interviews, were conducted with public administration

officials in the city of Helsinki, which is adjacent to Espoo and Finland's largest city. In these interviews, we sought to better understand some of the issues that cities face when operating a chatbot-based service. Given the rapid development of natural language processing, we see that there is unmet potential in the use of chatbots in public services (cf. Larsen & Følstad, 2024). Our research questions focused on the daily operation of chatbots in the city of Helsinki and the possibilities and challenges that they afforded in terms of delivering digital public services.

In addition to semi-structured interviews with experts in the city of Helsinki, we have collected public documents and reports on the development, implementation, and use of chatbots in public services, especially in Finland. In our analysis, we thematically coded the interviews into broader categories and identified issues that had relevance in the implementation of speech-based natural language processing. Our analysis was further informed by principles derived from inclusive digital design and constructivism to help identify areas where mentoring through such a platform could help create a more productive and effective dialogue between migrant women and the chatbot.

Research Context

Our initial approach and entry into looking at chatbot use in Helsinki was supposed to be through the maternity services chatbot NeRo. We chose NeRo since it was an important gateway through which the city maternity services are able to reach all mothers, including migrant mothers in providing maternity guidance and services. During the early stages of our research project, however, the City of Helsinki decided to merge NeRo with the larger social and healthcare service chatbot Hester (City of Helsinki, 2024). This move was justified by the city as wanting to develop "one voice" for their social and healthcare chatbot services and simplify the way information could be found through the city's digital services.

The city of Helsinki chatbots are based on IBM's Watsonx Assistant and were launched in early 2021 (IBM, 2024). When launched the city had numerous separate chatbots or virtual assistants as they call them. Over the years, however, it has merged several chatbots into a multi-chatbot, which covers numerous sectors in the social and healthcare services. Currently, the city maintains 8 different chatbot services.

As mentioned, in order to ensure that the chatbot is providing correct answers, the city employs chatbot whisperers, who oversee the log files to make sure that correct responses are being provided. According to the City of Helsinki:

> The system records the questions asked and the answers given during the chat session in a log file. The log is regularly analysed by the service development team to see how the service has responded to customer questions. The analysis will identify areas of content where the training material and the answers provided by the service need to be improved. After the analysis, the training material is defined and more sample questions can be added or, for example, new discussion paths can be created to improve the user experience of the service. Customer feedback can also be used to define answers and add more information. (https://ai.hel.fi/en/sotebotti-hester-en/)

Each chatbot whisperer has specific domain knowledge, such as maternity clinic knowledge, but who are then trained to understand how chatbots operate and make necessary updates to the system or to the dialogues in order to resolve inaccuracies that the chatbot may encounter

when trying to respond to queries? In this sense, the correction of mistakes is made post hoc and since the city does not collect any identifying information on users, the whisperers cannot re-contact individuals who have been provided with inaccurate information.

Opportunities and Challenges in Chatbot Development for Public Services

Most of the public services in Finland use traditional chatbots. Chatbots are seen as only one service pathway among many, which include face-to-face contact, online information, as well as live-chat options. There are, however, numerous disadvantages to existing written-text-based chatbot models. The models operate usually with a limited set of languages. The chatbots are sensitive to spelling mistakes, and the models are only able to handle simple questions. For users, such as migrants coming to a new country, the lack of necessary language or technical skills may significantly hamper their ability to find useful information for their integration into everyday life in a new country. Consequently, they may also miss out on important information and resources that may be available to them in helping to find their place in a new culture.

In addition to the technical challenges of traditional chatbots, public authorities such as cities, municipalities, and tax authorities are legally mandated to ensure that the information that they provide to customers is accurate and up to date. With traditional chatbots, this has been addressed through using chatbot whisperers. Therefore, the challenge of LLM "hallucinations" must be taken seriously by public authorities if they are to properly use new technologies (Hannigan et al., 2024; Salamin et al., 2023). In addition, public authorities are required to take into consideration the privacy concerns of users, ensuring that personal information does not 'leak' out or become available to non-authorized parties.

In our research and interviews, we identified five areas related to the use of chatbots that could benefit from a constructivism approach. These are multilingual support, user-friendly design, cultural sensitivity (inclusiveness), 24/7 availability, and privacy and security. We identified these issues as relevant based on the responses of our research participants, as well as being identified in the literature as being important considerations when developing technologies for migrants. We also see these domains as important areas for development using the approach that we outline above in developing chatbots from being mere autoresponders to mentors.

Multilingual Support

In our interviews with both city administrators and migrants, language support was an issue that was raised numerous times. In the City of Helsinki chatbot services, the languages that are supported include Finnish, Swedish, and sometimes English. For migrants moving to Finland, Finnish and Swedish are usually very difficult options since almost no one outside of these countries speaks these languages. Interviews with immigrants revealed that chatbots operating exclusively in Finnish posed a barrier for those who, even after living in Finland for an extended period, were not confident in their Finnish language skills. The use of English is commonplace and provides a much better medium through which to use chatbots. For many migrants, however, the use of English may also provide challenges since it may not be their mother tongue.

An important issue related to language support relates to correct spelling. Several chatbot whisperers noted that the chatbot is not good at correcting or accounting for spelling mistakes

and consequently is not able to ascertain the correct response that it should provide. As a result, users are often not able to get the necessary information that they are seeking.

User-Friendly Design

A second issue of concert that arose in the interviews and research relates to design. Almost all chatbots that are in use today follow a similar design logic: they are small boxes that pop up at the bottom of the right-hand side of your screen. In most cases, they are only able to facilitate very simple questions. For example, the chatbot for the International House Helsinki (IHH) which serves as a gateway for people moving to Finland and seeking information maintains a chatbot, that provides the following prompt when started: "I'm still learning and understand best if you ask about one topic at a time. How may I help you?" (https://ihhelsinki.fi/).

The results revealed that most migrants who participated in the study preferred face-to-face communication over conversational chatbots, as they found the automated systems difficult to engage with and often abandoned the chat upon realizing it was not user-friendly. A migrant questioned the necessity of using an automated chatbot for queries, considering her proficiency in navigating web pages. Notably, none of the participants had prior experience using AI conversational chatbots for public sector services, further highlighting the gap in accessibility.

Cultural Sensitivity (Inclusiveness)

A third issue that emerged from our research is cultural sensitivity. The role of digitalization in Finland has been a central element in the development of public services for decades. Yet for many migrants, the use of such services may not be self-evident.

For migrants moving to Finland, questions related to relocation are often quite complex and require the expertise of a multitude of experts. Although chatbots are not expected to provide support for this, the design limits may result in increased forms of exclusion. Since chatbots are also specific to services, questions related to migration and residency may require the chatbot to refer users to other chatbots, such as the Kamu chatbot, which is maintained by the Finnish Immigration Services. Interview with migrants indicated that the Finnish Immigration Service's chatbot, Kamu, was found useful for providing general guidance on immigration processes, particularly for tracking application status.

In this sense, the development of chatbots over the years has not included a particular interest in using inclusiveness as a parameter for design choices but rather design and development have focused on technical solutions and the accuracy of the information that is being provided as opposed to taking into account eh needs of specific user groups, such as minorities or migrant communities. A better understanding of different cultural norms and expectations regarding interaction and communication with public authorities can help in facilitating a more inclusive approach to design.

24/7 Availability

One of the main benefits that chatbots provide in terms of public services relates to them being available 24/7. The results highlighted the convenience of a chatbot due to its flexibility in time and location. This is a significant improvement over the availability of

human services and support, which are limited to working hours. Many chatbots are able to provide links to human support services such as live chat, but this feature does not work after usual working hours. This is a challenge for individuals who may be working during the day and not be able to readily take time off of work to find relevant information. This feature of chatbots provides a significant improvement in terms of making services available.

Privacy and Security

The final concern which was raised by public service managers related to privacy and security. Many of the chatbot whisperers that we interviewed noted that the logs that they review regularly contain specific and very personal information that is sensitive in nature.

Within the context of the General Data Protection Regulation (GDPR), public service providers need to pay close attention to where data is processed and stored and how anonymization is ensured to protect users from unwanted violations of privacy. Luckily, these issues have garnered increased attention during the past years.

The compartmentalization of service information by public authorities may further complicate the process of finding relevant information. The sharing of personal information and interacting with authorities may entail significant risk and concern for some individuals, especially some asylum seekers. Furthermore, the expectation that information should be gleaned from chatbots as opposed to humans may seem inappropriate or even cumbersome for some.

A common challenge that is highlighted throughout these five issues we have discussed above relates to a difficulty that users face in terms of not knowing what and how to interact with chatbots. In other words, users still don't know what to ask. Many questions may be complex and require expertise from numerous different service fields, so users may not be aware of how chatbots operate. Therefore, chatbots need to provide prompts to users about how to interact with them. This is evidenced by IHH chatbots which prompt users to only ask simple questions. The difficulty of understanding, for example, how city services work and how they are organized is not a feature that is made readily available through current implementations of chatbots.

From an educational perspective, the interaction between a chatbot and a user involves a learning process. We see the use of a constructive approach in implementing large language models, for example, as one way to address this knowledge gap since it would help and provide a structure through which users can be taught to better understand the knowledge field that they are engaging with. Further, with the growth of multiculturalism, inclusiveness has defined an important goal to enhance justice in society. Therefore, this paper presents the potential of AI-based chatbots to enhance inclusiveness and how utilizing assumptions, strategies, and methods of constructivism guides us to develop constructivist chatbots.

AI-Based Chatbot to Enhance Inclusiveness

With the rapid advancements in artificial intelligence, chatbots have undergone significant transformation, leading to the development of AI-powered large language models (LLMs). These innovations have given rise to a new generation of intelligent chatbots, like ChatGPT and Gemini that are more sophisticated and widely used. They offer new possibilities for finding relevant information on more complex topics. AI-based chatbots use machine

learning to understand characters, words, and sentences, distinguishing between pieces of content without human intervention. Through natural language processing (NLP), a machine-learning algorithm enables chatbots to understand, analyze, and replicate human language (Tuturbot, 2021). AI-based chatbots can be trained using large and complex data sets, including programming languages. These chatbots can be customized and personalized for various goals and content, such as public services. Unlike static websites, the content in an AI-based chatbot is dynamic and evolves through user input. Grounded in the fundamental premise that every user of public services has a right to access information and receive available services, AI-based chatbots are equipped to serve multicultural users while respecting inclusive values.

The term inclusive values are adopted from educational settings, appreciating diversity, equality, participation, community, sustainability, etc. (Mergler et al., 2016; Stepanova et al., 2020). Inclusiveness has been expanded to design concerning concepts of fairness, justice, and equality among different users in a community in both materials and accessibility (Harris et al., 2023; Heylighen & Bianchin, 2018). Accordingly, inclusive design integrates several key principles and techniques to ensure usability and accessibility for diverse users. Figure 1 demonstrates how inclusive values serve as the foundation for developing inclusive design principles, which are applied to create chatbots catering to diverse user needs.

As shown in Figure 1, fairness, justice, and equity are keys that ensure that chatbots provide equal treatment to all users, regardless of background. In this process, some inclusive design principles are followed such as accessibility, cultural and linguistic diversity, trust and transparency, feedback, and user-centered design focus on making the technology usable for everyone, including individuals with different abilities and language proficiencies. To achieve each of these principles specific design features are implemented.

Accessibility is paramount, aiming to make chatbots usable by individuals with varying cognitive, sensory, and physical abilities. This can be achieved through features such as screen reader compatibility, voice command options, and keyboard navigation. An inclusive chatbot must support multiple languages and provide relevant responses without cultural biases. Clear, concise, and jargon-free language, along with explanations for technical terms, enhances comprehension. User-centered design involves understanding the diverse needs of the target audience. An inclusive user-centered design must support multimodal interaction modes (text, voice, visual aids), and offer personalization and contextual awareness by tailoring responses based on user preferences and history. Trust and transparency are vital, ensuring user confidence in privacy and security measures and offering options to escalate to human agents when necessary. Feedback mechanisms are also critical, allowing for continuous improvement by identifying and addressing barriers to accessibility and inclusiveness (Fig 1).
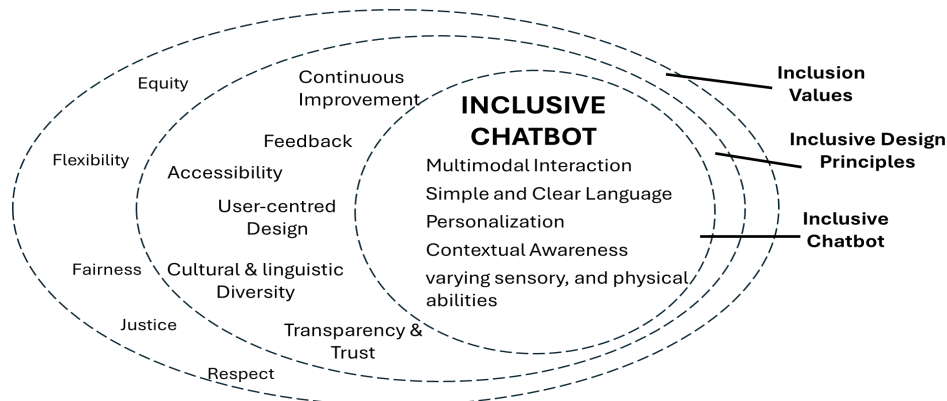
Figure 1: Inclusive Chatbot Design

By integrating these elements, inclusive chatbots can offer more equitable, fair, justified, and respectful services.

We see that more refined and dedicated attention to service design can lead to higher trust in services that use AI in different ways (Aoki, 2020). Concerning migrants, especially those who try to navigate a new and often complex public service environment, we see this as an important element of developing inclusive digital public services.

Despite innovative initiatives, digital gaps persist, necessitating optimal solutions for both customers and service providers, especially for multicultural societies. Accordingly, in this paper, we propose a paradigm shift in the role of chatbots, advocating for their evolution from mere autoresponders to mentors. Rather than merely retrieving information based on keywords, chatbots can proactively guide users through their digital journeys by employing findings from constructivism as a fundamental pedagogical theory. Respecting the premise that every user of public services engages in ongoing digital literacy and cultural integration, this study advocates integrating constructivism as a learning theory, into service design practices.

Constructivist AI-Based Chatbots

Constructivism is a theory in education and cognitive science. Constructivist chatbot Refers to a chatbot that is designed to facilitate learning or interaction by helping users build knowledge through experiences and active engagement, rather than passively providing information. It offers valuable insights for designing conversational chatbots as Intelligent Tutors (Patchava & Jonnalagadda, 2020; Sánchez-Díaz et al., 2018).

This section explores the potential of fundamental assumptions of constructivism including a) *active learning* and b) *prior knowledge and experiences*, to design a constructive chatbot (Fig. 1). It further examines different strategies and methods of some principles of constructivism, such as interaction and feedback, and social interactions and pre-assessments and to elaborate strategies and methods which can be applied in designing chatbots.

Active Learning

Active learning, as a pivotal assumption of constructivism, encompasses strategies aimed at maintaining user engagement with content through interactions, feedback, and reflections. Interaction is crucial for sustaining user engagement and facilitating deeper understanding

often implemented through interactive user-centric design, real-world scenarios, problem-solving, and hands-on activities schemes (Fig 2).
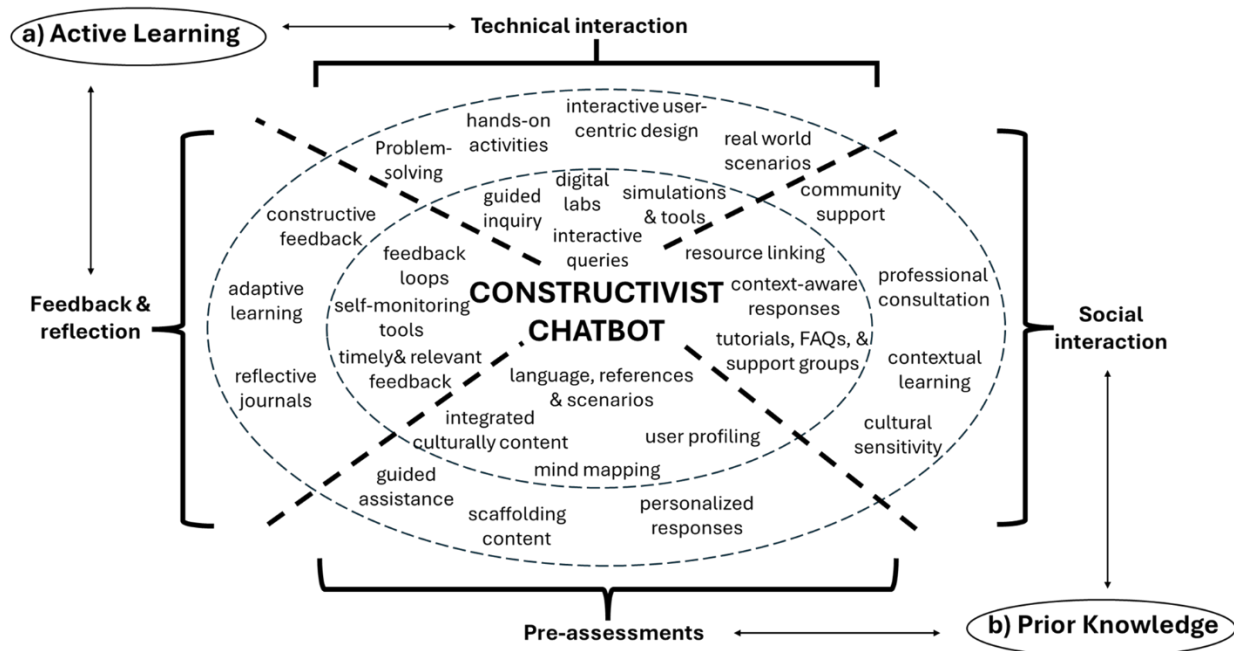

Figure 2: Assumptions, Strategies and Techniques to Design Constructivist Chatbots

In chatbot design, interactions are facilitated through tools like interactive simulations, digital labs, and virtual experiments, encouraging hands-on user engagement with content (Azad, 2023; Rossoni et al., 2023). These activities have demonstrated their potential in chatbot design by incorporating applications such as interactive queries and guided inquiry applications. For instance, chatbots can incorporate interactive queries and guided inquiry applications, allowing users to pose specific questions and receive detailed, personalized responses. These responses can be delivered through clickable options or guided questionnaires, enhancing the user's engagement and learning experience (Zhang et al., 2020; Dwivedi et al., 2023; Gordon et al., 2018). Scenario-based interactions involve the simulation of real-life scenarios wherein users can explore various situations and receive guidance on appropriate actions (Barter 2023; Chen, 2024). For example, a public service chatbot can engage users by soliciting their queries and providing interactive feedback based on their responses. Current implementations of chatbots in the City of Helsinki have limited capacity to solicit further questions, although some forms of disambiguation have been implemented in specific queries.

Feedback, another principle of constructivism, assists individuals in comprehending their progress and identifying areas for improvement. Constructive feedback and encouragement significantly enhance user confidence, particularly among those who may feel marginalized or uncertain about utilizing digital services (Ortega-Ochoa et al., 2024). Feedback can be effectively designed using adaptive learning technologies that offer personalized responses based on users' performance. The implementation of adaptive responses through AI facilitates this personalization, tailoring feedback to the user's interactions and providing increasingly relevant and specific guidance (Izadi & Forouzanfar, 2024). Regular, timely, and specific feedback on user queries and actions, which includes suggestions for improvement and reinforcement of correct practices, helps users adjust their strategies and improve their performance. Feedback that is timely and directly pertinent to the user's current context and

needs fosters a sense of support and understanding. Encouraging self-reflection on their experiences and progress and incorporating mechanisms for feedback loops where users can share their experiences and thoughts about the chatbot's effectiveness, can enhance the chatbot's functionality and inclusiveness (Vijayaraghavan & Cooper, 2020). Feedback is more productive when methods and technologies to reflect user experiences are added to the chatbot design. Technologies such as reflective journals and blogs enable users to document and reflect on their experiences, providing opportunities for self-assessment, self-regulation, and constructive feedback (Chang et al., 2023). Features such as self-monitoring tools and regular summaries applications based on user inputs, where users can track their progress (e.g., blood pressure, glucose levels in healthcare digital services, and chatbots), assist users in reflecting on their progress and outcomes.

Prior Knowledge and Experience

The other assumption of constructivism theory posits that individuals build upon existing cognitive structures to acquire new knowledge (Sjøberg, 2010). In the context of chatbot design for public services, this translates to the importance of considering user background and context.

Pre-assessments provide preliminary data to determine the user's starting point and tailor content accordingly. A brief assessment of a user's prior knowledge allows for personalized responses. Chatbot interactions can be tailored based on previous encounters and information gleaned from the user. This personalization, achieved through user profiling, empowers the chatbot to deliver targeted advice and resources relevant to the user's background and current context (Jenneboer et al., 2022). For instance, a chatbot that remembers a user's past inquiries or preferences can leverage this information to optimize future interactions. Additionally, understanding user prior knowledge can enhance cultural sensitivity. Leveraging the prior knowledge and experiences of users, also, informs the scaffolding of digital content, the process of providing supportive structures that bridge new information with existing knowledge (Sjøberg, 2010). The results of user pre-assessments can be used to determine the structure of each subject within the chatbot. Tools like mind mapping and concept mapping can be valuable in visualizing this content scaffolding (Hu, 2006). In this context, Hosseini and Okkonen (2022) propose several criteria for structuring the content including known to unknown, simple to complex, tangible to abstract, analysis to synthesis, specific to general: empirical to rational, inductive to analogy, emotional to logical, actual to the general representative to the components, definite to the indefinite. By adhering to these principles, the chatbot can present information in a structured manner that aligns with the user's existing knowledge, promoting effective learning. Scaffolding the content of chatbots provides guided assistance through step-by-step guidance for complex tasks by breaking down information into smaller, manageable parts.

Social constructivism recommends chatbot designers to employ various methods to foster social interaction such as community support, professional consultation, and contextual learning. Community support refers to linking users to support groups, discussion forums, social media platforms, or any tools that encourage communication and knowledge sharing. Professional Consultation Integration facilitates connections to live chat or video consultations with professionals for more complex issues, offering users access to expert guidance. Resource linking can enrich social interaction by providing users with access to additional resources such as tutorials, FAQs, and support groups (Fig 2).

Concerning social interaction, effective knowledge acquisition occurs when information is relevant to real-life situations and reflects the user's specific context. Chatbots designed for public services can leverage various manners to create a learning environment that fosters both social interaction and contextualized learning. By integrating context awareness, chatbots can provide information and advice that is highly relevant to the user's specific situation. Imagine a user seeking medical advice. The chatbot, using location services, could recommend nearby clinics while also offering condition-specific guidance based on the user's description (Clarizia et al., 2019; Niederer et al., 2022). This not only addresses the user's immediate need but also empowers them to make informed decisions within their specific context.

These principles and methods for designing digital services are not standalone concepts. They can be effectively integrated into the creation of various applications in the form of core or supplemental tools for chatbot design. When designed with these principles in mind, public service chatbots move beyond simply providing information. They actively engage users in social interaction that enhances their understanding and management of their situations within a relevant context.

Conclusion

The development of AI chatbots through various LLMs has increased their potential to be more user-friendly, flexible, and competent to meet the needs of users from different backgrounds. Constructivism learning theory offers robust theoretical support for developing inclusive digital interactions by enhancing digital literacy and promoting equitable access, ultimately leading to increased fairness and justice in a multicultural society. This theory provides a powerful theoretical framework for designing and inclusive AI-based chatbots in many aspects.

Firstly, constructivism views the relationship between users and chatbots as a learning environment where a constructivist chatbot facilitates the construction of knowledge in users and assists them in their inquiry processes. By providing interactive and engaging learning experiences, these chatbots encourage users to explore and construct their understanding actively, which is critical for digital literacy improvement (Jonassen, 1991).

Secondly, constructivism principles guide the content construction process. They ensure that the information presented by chatbots is scaffolded, contextually relevant, and tailored to the user's existing knowledge and cognitive abilities (Vygotsky, 1978). This scaffolding is essential for helping users make sense of new information and integrate it with their prior knowledge, thereby fostering deeper learning and comprehension with more flexibility and individual respect.

Thirdly, constructivist chatbots incorporate instructions for the feedback and reflection process, promoting flexibility and cultural sensitivity through personalization. By allowing users to reflect on their experiences and providing tailored feedback, chatbots can adapt to individual learning styles and cultural contexts, ensuring that interactions are relevant and respectful (Bruner, 1966). This adaptability is crucial for creating an inclusive digital environment where all users feel understood and supported.

While AI-based chatbot design holds significant potential for enhancing migrants' inclusion within host societies, further research is recommended to address concerns related to

transparency and privacy. Specifically, exploring how users can securely share personal information in chatbot interactions remains a crucial area for development, ensuring that such systems not only foster inclusion but also protect users' data and build trust in public services.

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