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Artificial Intelligence (AI) and its Impact on Library Staff Learning and Development (L&D).

University of Pretoria Library

Новосибирск 2024



IFLA Special Interest Group
Artificial Intelligence



UNIVERSITEIT VAN PRETORIA
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INTRODUCTION

In this keynote, we will explore the intersection of Learning and Development (L&D) with Artificial Intelligence (AI) in library settings.

Key themes include

- The importance of technological literacy,
- The automation of routine tasks, and
- The collaborative nature of AI implementation in library services.
- Structured and unstructured training programs focusing on hands-on experiences and
- Ongoing professional development are essential for ensuring library staff proficiency in AI usage.



L&D Embracing Emerging Skills with Artificial Intelligence.

Implement AI Tools Continuous Learning Community Engagement

- Technological, AI literacy
Enhance the available
Technology
- Encourage continual skill
development using AI-powered
resources and learning pathways.
- Foster collaborative initiatives
within the library community
through AI-supported programs.

The importance of Incorporating Artificial Intelligence in L&D.

1 Efficiency

AI can streamline processes, helping staff efficiently acquire important skills.

2 Personalization

AI enables personalized skilling programs tailored to individual learning needs.

3 Optimization

It optimizes content delivery, ensuring staff receive the most relevant and up-to-date information.

Benefits of Using Artificial Intelligence in Library Staff L&D

1

Enhanced Learning

AI enhances staff learning experiences through interactive and immersive training methods.

2

Data-Driven Insights

It provides valuable insights into staff progress and areas for improvement.

3

Adaptability

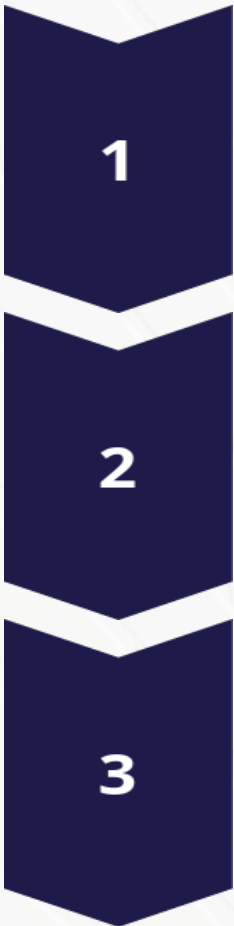
Adapts to individual learning styles, maximizing knowledge retention and skill development.

BENEFITS TO THE LIBRARIANS



- Enhanced Search and Discovery,
 - Recommendation Systems:
 - Chatbots and Virtual Assistants
- Automated Cataloging and Metadata Generation
 - Collection Management and Analysis:
 - Digitization and Optical Character Recognition (OCR)
 - Text Mining and Information Extraction
- Preservation and Conservation:
 - Accessibility Services:
 - Security and Fraud Detection

How Artificial Intelligence Can Enhance Skilling in L&D.



Interactive Modules

AI-powered interactive learning modules for hands-on skills development.

Personalized Feedback

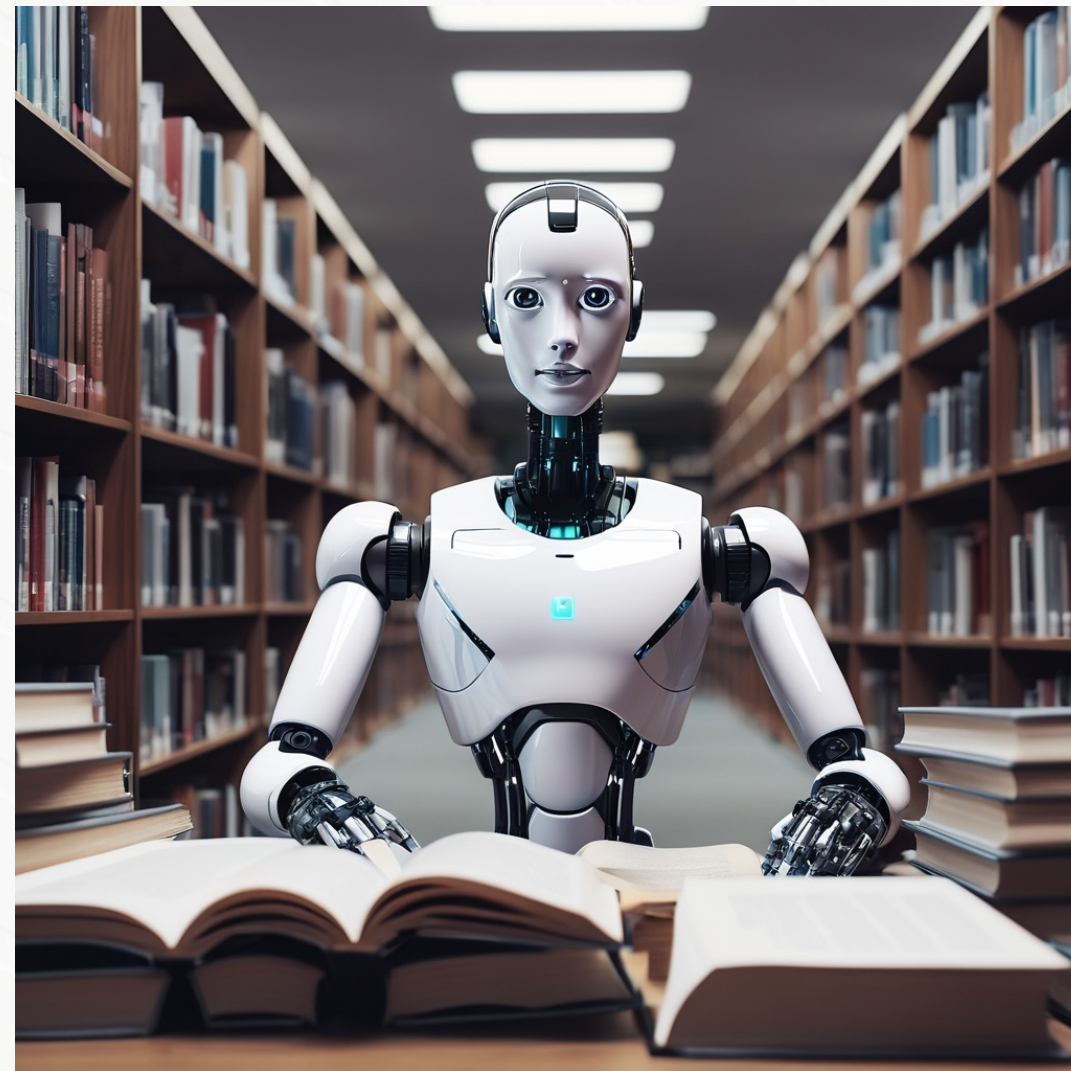
AI-generated personalized feedback to guide staff through their skilling journey.

Knowledge Repositories

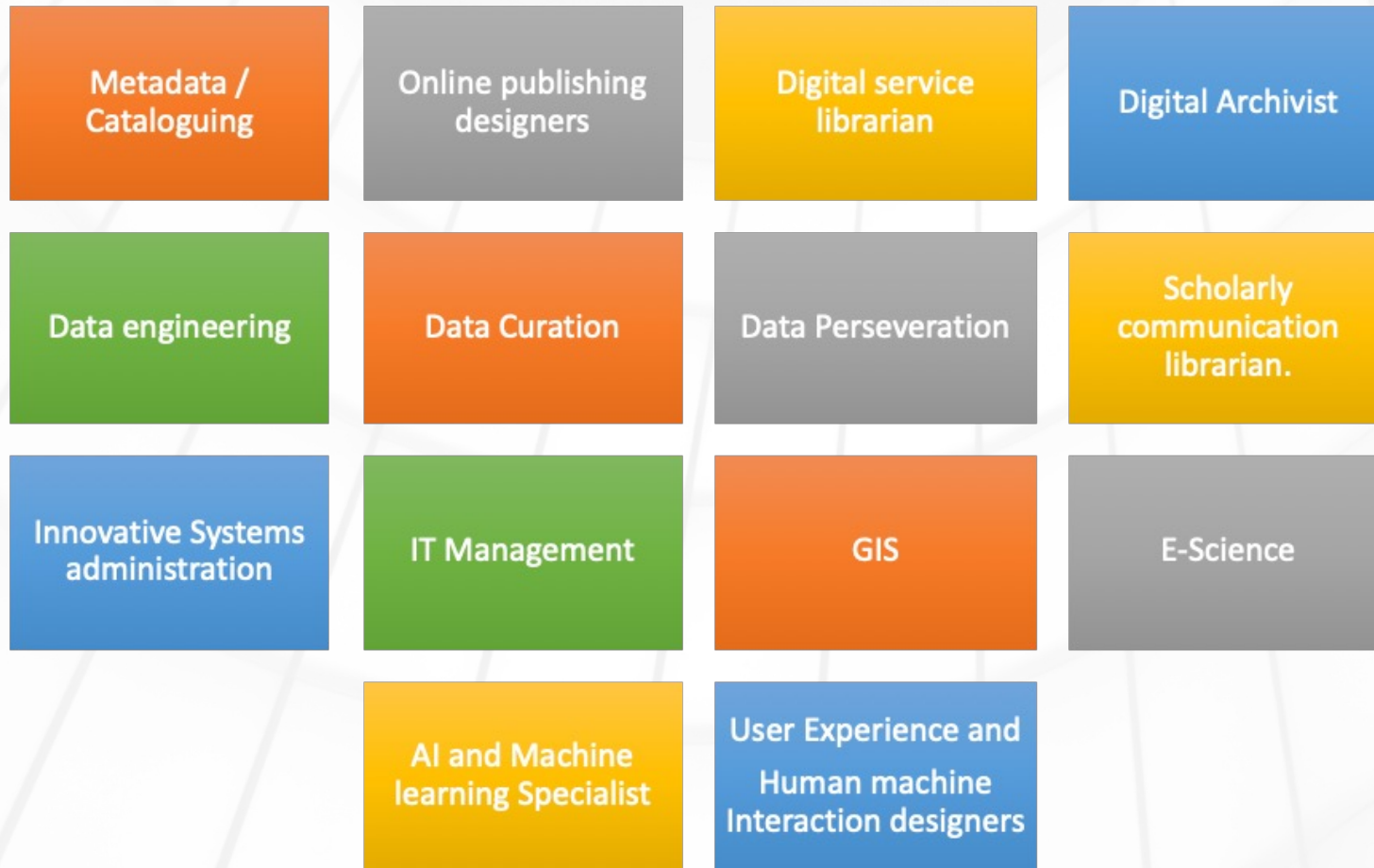
AI-curated repositories of resources and best practices for easy access.

AI POWERD LEARNING MANAGEMENT SYSTEMS

- Personalized Learning Paths:
- Adaptive Learning
- Content Curation and Recommendation
- Natural Language Processing (NLP) for Feedback and Support
- Virtual Mentors and Tutors
- Predictive Analytics
- Learning Analytics Dashboard
- Skills Gap Analysis and Training Needs Assessment
- Augmented Reality (AR) and Virtual Reality (VR) for Immersive Learning
- Language Translation and Accessibility



LIBRARY SKILLS AS DRIVERS OF AI IN L&D



SAMPLED TOOLS TO AVAILABLE

• METADATA AND CATALOGUING

- Clarifai
- Google Cloud Vision:
- Amazon Rekognition
- IBM Watson Visual Recognition
- Microsoft Azure Cognitive Services
- Adobe Sensei:
- Metadata.io:

ONLINE PUBLISHING

- Wordtune
- Grammarly
- Hemingway Editor
- ContentGems
- HubSpot Content Strategy Tool
- Quuu Promote
- BuzzSumo Optimizely

IMPROVE THE FUNCTIONALITY AND USER EXPERIENCE OF DIGITAL SERVICE

- IBM Watson Discovery
- ReadCube
- Mendeley
- Kopernio
- ProQuest One Academic
- LibraryThing

EXAMPLE OF AN AI SKILLS COACH

◆ AI-Powered Coaching

This experience is powered by AI and mistakes are possible. [Learn More.](#)

Hi Chipa, ask me about specific challenges you're facing at work and I'll gather advice from LinkedIn Learning to guide you. Your conversations will not be shared with your company or other LinkedIn members.

My responses will be personalized to your profile:



Current role: Senior Coordinator: Training 

Career goal: [Set a career goal](#)

Skills following: Instructional Design, Usability and 30 other skills 

Not sure where to start? Try these examples:

- ◆ How do I build rapport and trust with colleagues, especially when conflicts arise?
- ◆ How can I support the professional growth and development of my team members?
- ◆ What steps can I take to build strong relationships with my team members?



TYPES OF INTERVENTION IN L&D

Formal Education Programs

Online Courses and MOOCs:

Workshops and Seminars:

Vendor-Specific Training Programs:

In-House Training and Workshops:

Hands-On Projects and Hackathons

Peer Learning and Knowledge Sharing

Continuous Learning and Self-Study



Challenges and Considerations in Implementing Artificial Intelligence

Access & Equity

- Ensuring equitable access to AI tools and training resources for all staff members.

Data Privacy

- Safeguarding sensitive staff data while utilizing AI for training purposes.

L&D Maintenance

- Maintaining and updating AI systems to provide accurate and relevant L&D content.

Deep learning and L&D

- Deep learning exciting process are; Face recognition, image classification, speech recognition, text-to-speech generation, handwriting transcription, machine translation.
- In L&D the classification, categorisation of key words, search terms and frequent search of a topic or a course helps AI to understand common learning habit.
- In L&D Artificial Intelligence is very likely to impact the future of SEO through videos, images, voice search, and pre-trained models to assist in determining the learning path for an individual in online learning.



Advances of L&D in AI at the Library



**Digitization and Digital
Preservation:**

**User Analytics and
Insights**

**Accessibility and
Inclusivity**

**Information Retrieval
and Search:**

**Collection Development
and Management**

**Content Categorization
and Classification**

**Recommendation
Systems**

**Virtual Reference
Services**

Conclusion

- Targeting the skills of AI powered Systems
- Continues revision of the progress of Library staff to assist the client using AI System.
- Improve AI in L&D to enhance the University of Pretoria hybrid model of Teaching and Learning.
- Alignment of L&D and skills within the library for a fair distribution of the use of AI.
- Continuous review of AI based L&D process and and the impact on user experience.
- L&D is always informed by the developments in systems that accommodates AI.
- Strive to maximise Library services staff development using AI powered Systems



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Conference Name: International Conference LIBWAY-2024

Date 18-22 March 2024 (Hybrid)

Category: Keynote Speaker at AI Session

Presented 18 March 2024 at 12:00 pm

Artificial Intelligence and its Impact on Library Staff Learning and Development.

Libraries worldwide are undergoing a significant transformation as they embrace digitization. Artificial Intelligence (AI) has emerged as a crucial factor in shaping library operations. This presentation examines the impact of AI on the learning and professional development of library staff, with a focus on "The Impact of Artificial Intelligence on Library Staff Learning and Development." This study investigated the various ways in which AI influences the growth and skill enhancement of library professionals.

The emergence of artificial intelligence (AI) in libraries calls for the examination of its diverse implications for library personnel. This presentation delves into the nexus between AI and the domain of learning and development, emphasizing the pressing need for libraries to embrace technological advancements. As libraries transition to digital environments, the responsibilities of library staff shift, necessitating a sophisticated understanding of how AI influences professional growth.

This presentation delves into the ways in which AI technologies, including automated cataloguing and metadata creation, as well as AI-driven reference services, are transforming the roles and duties of library staff. Furthermore, the necessity of ongoing training programs will be investigated to enable library professionals to competently navigate and effectively utilize AI technologies. This study provides an in-depth analysis of the ethical factors that must be considered when implementing AI, such as data privacy, fairness, and transparency. This study emphasizes the significance of fostering an ethical AI culture within libraries to ensure the responsible and equitable use of AI technologies.

The presentation highlighted several key themes, including the need for technological literacy, automation of routine tasks, and collaborative nature of AI implementation in library services. Technological literacy is a crucial component in the incorporation of AI into library services, and it is essential to provide library staff with the skills necessary to harness AI's potential. This can be achieved through structured training programs that focus on hands-on experiences, collaborative initiatives, and ongoing professional development. The practical aspects of these programs are of paramount importance for ensuring that library staff become proficient AI users.

AI's influence on cataloguing procedures is far-reaching and transformative. By relieving library staff of their tedious cataloguing duties, AI enables them to focus on higher-level strategic pursuits. This situation facilitates a deeper examination of the reciprocal relationship between AI adoption and professional development opportunities stemming from the streamlined cataloguing processes.

User experience is significantly enhanced by AI-driven technologies, which constitutes the central theme of this study. AI-powered recommendation systems play a vital role in

customizing user interactions. This presentation also delves into the ways in which library staff can hone their abilities to interpret user data, refine AI algorithms, and ensure that AI complements rather than detracts from human elements in library services.

The use of artificial intelligence (AI) in the automation of repetitive and routine tasks has emerged as a transformative element in various industries, including libraries. By participating in these mundane activities, AI allows library staff to focus on intellectually challenging tasks, which in turn necessitates continuous learning and development. This presentation examines the consequent reallocation of responsibilities, highlighting the significance of these changes and the opportunities they create for library staff to contribute actively to the strategic objectives of their institutions.

This presentation highlights the significance of fostering close collaboration between library professionals and AI developers, emphasizing the importance of ongoing learning, understanding technical complexities, and actively contributing to the seamless integration of AI technologies. The dynamic and constantly evolving nature of AI necessitates continuous monitoring and evaluation by library staff to assess its performance, adaptability, and impact of AI tools on library services. This iterative evaluation process is crucial for maintaining optimal functionality and ensuring that the AI aligns with the changing needs of library users.

This presentation highlights the transformative capacity of artificial intelligence (AI) in the context of library staff learning and development. Although AI has the potential to revolutionize information services, its integration is challenging. Resistance to change, fear of job displacement, and concerns about algorithmic biases are some of the hurdles library staff may encounter. To overcome these challenges, a proactive and collaborative approach to learning, adaptability, and collaboration is necessary. Moreover, this study emphasizes the need for future research to explore how libraries can leverage AI to provide equitable and inclusive information.

This presentation emphasizes the need for library staff to cultivate dynamic skill sets, engage in continuous learning, and actively contribute to the ethical and effective integration of AI into library services. This presentation contributes to a comprehensive understanding of the evolving roles of library professionals in the era of AI, paving the way for future research and informed practice.

Keywords: Artificial Intelligence, Learning and development, professional growth, skill development, literacy.

Artificial intelligence (AI) has become an indispensable tool for enhancing staff-learning experiences by offering interactive and immersive training. By utilizing advanced AI techniques, employees can engage more deeply with the material, leading to improved knowledge retention and skill development (Harry 2023). Additionally, AI provides valuable data-driven insights into staff progress and areas of improvement. By analyzing various metrics and performance indicators, AI helps identify specific areas where individuals may need additional support or resources. Moreover, AI-driven learning systems demonstrate adaptability by catering to the individual learning styles. This

adaptability ensures that each staff member receives a personalized learning experience tailored to their unique needs and preferences. As a result, AI not only maximizes the effectiveness of training programs but also fosters a culture of continuous learning and professional development among library staff.

Incorporating artificial intelligence (AI) into learning and development (L&D) initiatives is crucial for organizations to improve their workforce capabilities and performance. First, AI increases the efficiency of the L&D processes by streamlining various tasks and workflows. For instance, it automates administrative tasks, content creation, and assessment procedures, allowing staff to acquire essential skills more efficiently, thus saving time and resources for both learners and trainers (Bhatt & Muduli, 2022). Second, AI facilitates personalized skilling programs that cater to the diverse learning needs and preferences of employees. By employing sophisticated algorithms and data analytics, AI can analyze learners' behaviors, preferences, and performance data to tailor their learning experiences, ensuring that each staff member receives training that closely aligns with their specific requirements and learning styles. Finally, AI plays a crucial role in optimizing content delivery within L&D programs. By continuously analyzing and updating content repositories, AI ensures that staff receives the most relevant and up-to-date information, thereby maximizing the effectiveness of training initiatives. Overall, the incorporation of AI into L&D endeavors enhances efficiency, personalization, and optimization, ultimately leading to a more skilled and productive workforce.

In the field of Learning and Development (L&D) in library settings, there is a growing emphasis on upskilling and reskilling library staff to meet the demands and technological advancements of the modern age. L&D programs are designed to equip staff members with the necessary skills to excel in their roles, both in response to immediate job requirements and anticipation of future challenges. The integration of Artificial Intelligence (AI) technologies into L&D frameworks has led to a paradigm shift in skill acquisition and development. AI provides the potential for personalized, scalable, and affordable learning experiences based on the individual needs and preferences of the staff members (Okunlaya et al. 2022). By utilizing AI-driven tools and platforms, library staff can engage in on-the-job learning experiences that are just-in-time, allowing them to acquire relevant skills precisely when needed. Furthermore, AI facilitates microlearning opportunities, enabling staff members to learn at their own pace and focus on specific skills or knowledge areas. The integration of AI in L&D highlights its potential to transform traditional approaches to skill development, making learning more accessible, efficient, and effective for library professionals.

The use of Artificial Intelligence (AI) in green skilling represents a noteworthy advancement in promoting sustainable practices and environmental stewardship in library settings (Barsha and Munshi 2023). Implementing AI tools enables libraries to harness the power of data analytics and automation for optimizing resource management, reducing environmental impact, and encouraging eco-friendly practices. Additionally, AI-driven resources and learning pathways facilitate continuous skill development among library staff, fostering a culture of continuous learning and innovation in sustainability (Ramachandran 2024). AI-supported programs help libraries engage with their communities and collaborate on initiatives aimed at addressing environmental challenges and promoting sustainable solutions. By incorporating AI technologies into green skilling initiatives, libraries contribute to the

development of environmentally conscious professionals while playing a vital role in advancing sustainability goals within their communities.

The incorporation of Artificial Intelligence (AI) in Learning and Development (L&D) programs has a transformative impact on educational practices, as it allows for personalized learning paths tailored to individual learners' needs and preferences. AI algorithms used in adaptive learning systems adjust course content and difficulty levels based on learners' progress, facilitating optimal knowledge acquisition and retention. Furthermore, AI-driven content curation and recommendation mechanisms enable the delivery of relevant and engaging learning materials. Natural Language Processing (NLP) capabilities empower AI systems to provide timely and targeted feedback on assessments, promoting a deeper understanding and mastery of concepts. Virtual mentors and tutors equipped with AI technology offer personalized guidance and support to learners, fostering a collaborative and interactive learning environment. Predictive analytics tools enable educators to forecast learning outcomes and identify areas for improvement, facilitating data-driven decision-making in instructional design. Additionally, AI enables skill gap analysis and training needs assessment, allowing organizations to tailor L&D interventions to address specific competency gaps and developmental needs. The integration of Augmented Reality (AR) and Virtual Reality (VR) technologies enhances learning experiences by providing immersive and interactive simulations that enable learners to practice real-world scenarios in a safe and controlled environment. Overall, the hybrid use of AI in L&D has the potential to revolutionize educational practices and drive innovation, efficiency, and effectiveness in learning and development endeavors.

AI-powered Learning Management Systems (LMS) represent a significant advancement in educational technology, offering a wide array of features designed to enhance the learning experience for both students and educators. These systems leverage artificial intelligence (AI) to provide intelligent content recommendations, ensuring that learners have access to relevant and engaging resources tailored to their individual needs and interests. Adaptive assessments powered by AI algorithms dynamically adjust the difficulty and format of quizzes and tests based on student performance, facilitating a more personalized and effective evaluation process. Natural Language Processing (NLP) capabilities enable AI-powered LMS platforms to provide instant feedback and support to learners, enhancing their understanding and mastery of the course materials. Predictive analytics tools analyze various data points to forecast student success and identify at-risk learners, allowing educators to intervene early and provide targeted support. Virtual tutoring and mentoring features offer personalized guidance and assistance to students, thereby fostering a collaborative and supportive learning environment. Content generation and customization capabilities enable instructors to create and tailor learning materials to meet staff's needs and preferences. A comprehensive learning analytics dashboard provides valuable insights into staff progress, engagement, and performance, facilitating data-driven decision making and instructional design. Furthermore, AI-powered language translation and accessibility features ensure that course content is accessible to staff from diverse linguistic backgrounds and to those with disabilities, thereby promoting inclusivity and equity in education. Overall, AI-powered LMS platforms have immense potential to revolutionize

learning and development by leveraging AI technologies to enhance content delivery, assessment, feedback, and support mechanisms.

Implementing Artificial Intelligence (AI) in organizational contexts presents a myriad of challenges and considerations that must be carefully navigated to ensure its effective and ethical use. One of the foremost concerns is access and equity, encompassing the need to provide equitable access to AI tools and training resources for all staff members regardless of their background or level of technological proficiency. Achieving this requires addressing potential barriers, such as digital literacy gaps, and ensuring that AI initiatives prioritize inclusivity and accessibility. Another critical consideration is data privacy, particularly concerning the safeguarding of sensitive staff data, while leveraging AI for training purposes. Organizations must implement robust data protection measures and adhere to regulatory frameworks to mitigate the risk of unauthorized access or misuse of personal information. Furthermore, the maintenance and upkeep of AI systems present ongoing challenges, particularly in the context of Learning and Development (L&D). Ensuring the accuracy and relevance of AI-driven L&D content requires the continuous monitoring, updating, and refinement of algorithms and models. This necessitates a commitment to ongoing training and professional development for L&D personnel to effectively leverage AI technologies and maximize their potential benefits while mitigating the associated risks. Overall, addressing these challenges and considerations is essential for organizations to harness the transformative potential of AI in L&D while upholding the principles of fairness, transparency, and accountability.

Artificial Intelligence (AI) has immense potential to enhance skilling initiatives within Learning and Development (L&D) frameworks, offering innovative solutions to address the evolving needs of the workforce. First, AI-powered interactive learning modules provide hands-on skill development opportunities, offering immersive and engaging experiences that facilitate active learning and knowledge retention. These modules leverage AI algorithms to simulate real-world scenarios, allowing the staff to practice and refine their skills in a safe and controlled environment. Second, AI-generated personalized feedback mechanisms play a crucial role in guiding the staff through their skilling journey. By analyzing learners' performance data and interactions with training materials, AI can provide tailored feedback and recommendations for improvement, fostering a supportive and adaptive learning environment. Finally, AI-driven knowledge repositories offer curated resources and learning materials tailored to the needs and preferences of the individual staff members. These repositories leverage AI algorithms to analyze learners' interests, learning styles, and proficiency levels, ensuring that they have access to relevant and updated information to support their skilling endeavors. Overall, the integration of AI technologies in L&D initiatives enhances skilling outcomes by providing interactive, personalized, and accessible learning experiences that empower staff to effectively acquire and refine their skills.

The integration of Artificial Intelligence (AI) technologies into library operations offers a multitude of benefits to librarians by enhancing various aspects of their roles and responsibilities. First, AI enables enhanced search and discovery functionalities, allowing librarians to efficiently navigate vast collections of resources and to provide more accurate and relevant information to patrons. Recommendation systems powered by AI algorithms facilitate personalized recommendations, thereby enabling librarians to offer tailored reading suggestions based on user preferences and interests. Moreover,

chatbots and virtual assistants equipped with AI capabilities streamline patron interactions, providing instant support and guidance to users, while freeing up librarians' time for more complex tasks. AI-driven automated cataloging and metadata generation tools automate tedious administrative tasks, allowing librarians to focus on more value-added activities, such as collection development and outreach. Collection management and analysis tools powered by AI enable librarians to make data-driven decisions regarding resource allocation and acquisition, and optimize the use of library resources. Additionally, AI facilitates digitization and Optical Character Recognition (OCR), enabling librarians to digitize and preserve valuable materials while enhancing accessibility. Text mining and information extraction capabilities enable librarians to extract valuable insights and knowledge from large volumes of text-based resources, facilitating research and scholarships. Furthermore, AI contributes to preservation and conservation efforts by identifying and prioritizing materials in need of conservation intervention. Accessibility services powered by AI technologies improve access to library resources for disabled users, promoting inclusivity and equitable access to information. Finally, AI enhances security measures in libraries by enabling fraud detection, protecting against unauthorized access to sensitive information, and safeguarding the integrity of library collections and user data. Overall, AI integration offers librarians a range of tools and capabilities to enhance their efficiency, effectiveness, and ability to meet the diverse needs of library users.

Library skills serve as essential drivers of Artificial Intelligence (AI) integration within the context of Learning and Development (L&D) contexts, facilitating the effective implementation and utilization of AI-powered tools and strategies. Librarians possess expertise in metadata/cataloguing, enabling them to organize and classify vast amounts of data efficiently, which is a fundamental aspect of AI systems. Additionally, their knowledge of online publishing designs ensures the effective dissemination of educational content through digital platforms, thereby enhancing accessibility and engagement. Librarians specializing in digital services play a crucial role in managing digital collections and resources and leveraging AI technologies to enhance discoverability and user experience. Similarly, digital archivists have contributed to the preservation and accessibility of digital assets by employing AI-driven techniques for data engineering, curation, and preservation. Moreover, librarians specializing in scholarly communication facilitate knowledge dissemination and collaboration, integrating AI and machine learning into innovative systems that enhance research productivity and impact. Their expertise in IT management ensures the seamless integration and maintenance of AI systems within L&D frameworks, whereas proficiency in areas such as GIS, E-Science, and UX design enables them to harness AI technologies effectively for data analysis, visualization, and user interface optimization. Collectively, library skills serve as foundational pillars for the successful integration of AI into L&D, driving innovation, efficiency, and effectiveness in educational practices.

Incorporating Artificial Intelligence (AI) tools into Learning and Development (L&D) initiatives offers immense potential for enhancing educational experience and outcomes. In the realm of metadata and cataloguing, a diverse array of AI-powered tools exist to automate and streamline the organization and classification of information. Platforms such as Clarifai, Google Cloud Vision, Amazon Rekognition, IBM Watson Visual Recognition, Microsoft Azure Cognitive Services, Adobe Sensei, and Metadata.io leverage advanced algorithms to analyze and tag digital assets, facilitating efficient

metadata generation and cataloging processes. AI tools designed for online publishing enable content creators and marketers to enhance the quality and effectiveness of their materials. Wordtune, Grammarly, Hemingway Editor, ContentGems, HubSpot Content Strategy Tool, Quuu Promote, BuzzSumo, and Optimizely offer features such as grammar and style correction, content optimization, and audience targeting, thereby improving the readability and impact of online content. Moreover, AI-powered tools designed to improve the functionality and user experience of digital services play crucial roles in information discovery and management. Platforms such as IBM Watson Discovery, ReadCube, Mendeley, Kopernio, ProQuest One Academic, and LibraryThing provide capabilities for content recommendation, research discovery, and knowledge management, thus enhancing accessibility and engagement for users. By incorporating these AI tools into L&D initiatives, organizations can leverage technology to optimize learning experiences, facilitate knowledge dissemination, and drive innovation in education.

Deep learning, an advanced subset of artificial intelligence, holds promise for revolutionizing Learning and Development (L&D) practices owing to its ability to process complex data and extract meaningful insights. In various applications, such as face recognition, image classification, speech recognition, text-to-speech generation, handwriting transcription, and machine translation, deep learning algorithms demonstrate remarkable capabilities in understanding and processing diverse forms of information. In the context of L&D, deep learning techniques play a crucial role in enhancing the organization and accessibility of educational content. By classifying and categorizing keywords, search terms, and frequently searched topics or courses, AI systems powered by deep-learning algorithms can gain insights into common learning habits and preferences. Furthermore, deep learning has the potential to significantly impact the future of Search Engine Optimization (SEO) in L&D by leveraging videos, images, voice searches, and pre-trained models. These technologies assist in determining personalized learning paths for individuals in online learning environments, thereby enhancing the relevance and effectiveness of educational content delivery. As deep learning continues to advance, its integration into L&D practices holds promise for optimizing learning experiences, improving knowledge retention, and fostering lifelong learning in the digital age.

The integration of Artificial Intelligence (AI) technologies into library Learning and Development (L&D) initiatives has led to significant advancements in enhancing educational experience and knowledge dissemination. In the realm of digitization and digital preservation, AI-driven tools enable libraries to efficiently digitize and preserve valuable resources, thereby expanding access to historical materials and cultural heritage. Moreover, AI facilitates user analytics and insights, providing libraries with valuable data on patron behaviors and preferences, which can inform strategic decision making and improve service offerings. In addition, AI enhances accessibility and inclusivity by providing tools for text-to-speech conversion, language translation, and alternative formats, ensuring equitable access to library resources for users with diverse needs. In terms of information retrieval and search, AI-powered algorithms optimize search functionalities, enabling users to locate the relevant materials more efficiently. Furthermore, AI supports collection, development, and management by analyzing usage patterns and recommending acquisitions that align with user interests and needs. Content categorization and classification tools powered by AI enhance the organization

and discoverability of library collections, facilitating efficient information retrieval. Finally, AI-driven recommendation systems and virtual reference services offer personalized recommendations and assistance to users, enhancing their overall library experience and supporting their learning endeavors. Overall, the integration of AI into library L&D endeavors enhances accessibility, efficiency, and effectiveness in knowledge dissemination, enabling libraries to better meet the needs of their diverse user communities.

Within the evolving landscape of libraries, various roles stand to benefit from or require proficiency in Artificial Intelligence (AI) to effectively navigate and leverage technological advancements. Digital service librarians, tasked with managing digital collections and services, can utilize AI skills to enhance discoverability, accessibility, and user engagement within digital platforms. Metadata Librarians, responsible for organizing and categorizing library resources, can leverage AI to automate metadata generation and improve the efficiency of cataloging processes. User Experience (UX) librarians, focused on optimizing the usability and accessibility of library interfaces, can employ AI techniques to analyze user behaviors and preferences, inform design decisions, and enhance user satisfaction. Data Librarians or Data Scientists tasked with managing and analyzing library data can utilize AI algorithms to extract insights, trends, and patterns from large datasets, facilitating evidence-based decision-making and resource allocation. Research Support Librarians who assist patrons with research inquiries and information literacy can benefit from AI tools for literature review automation, citation management, and data visualization. Information Technology (IT) librarians responsible for managing library systems and infrastructure can incorporate AI technologies to enhance system efficiency, security, and interoperability. Finally, Emerging Technologies Librarians, tasked with exploring and implementing new technologies, can stay abreast of AI developments and applications to identify innovative solutions for library services and operations. In summary, AI skills are becoming increasingly essential for various roles within libraries, empowering professionals to adapt to technological changes, enhancing user experiences, and maximizing the value of library resources and services.

Conclusion

Emerging Technologies Librarians, tasked with exploring and implementing new technologies, can stay abreast of AI developments and applications to identify innovative solutions for library services and operations. In summary, AI skills are becoming increasingly essential for various roles within libraries, empowering professionals to adapt to technological changes, enhancing user experiences, and maximizing the value of library resources and services.

Barsha, S., Munshi, S. A. (2023). Implementing artificial intelligence in library services: A review of the current prospects and challenges of developing countries. *Library Hi Tech News*, 41(1), 7-10. <https://doi.org/10.1108/lhtn-07-2023-0>

Bhatt, P. K. and Muduli, A. (2022). Artificial Intelligence in Learning and Development: A Systematic Literature Review. *European Journal of Training and Development*, 47(7/8), 677-694. <https://doi.org/10.1108/ejtd-09-2021-0143>

Harry, A. (2023). Role of AI in education. *Interdisciplinary Journal and Humanity (INJURITY)*, 2(3), 260-268. <https://doi.org/10.58631/injury.v2i3.52>

Hussain, A. (2023). Use of artificial intelligence in library services: Prospects and challenges. *Library Hi Tech News*, 40(2), 15-17. <https://doi.org/10.1108/lhtn-11-2022-0125>

Okunlaya, R. O., Abdullah, N. S., & Alias, R. A. (2022). Artificial intelligence (AI) library services provide an innovative conceptual framework for the digital transformation of university education. *Library Hi Tech*, 40(6), 1869-1892. <https://doi.org/10.1108/lht-07-2021-0242>

Sreeja Ramachandran (2024). Transforming libraries sustainably: A synergy of AI and machine learning. *International Journal of Advanced Research in Science, Communication and Technology*, 398-401. <https://doi.org/10.48175/ijarsct-15354>