BVI literature review

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Ask GPT to Recommend Search Terms

```
# purpose <- "understand the current status of accommodations, identify gaps, and highlight effective p

# recommend_search_terms(purpose)
```

Import Data

- The current example data are extracted from Web of Science (WOS).

```
# import data
data <- xlsx::read.xlsx("savedrecs.xls", sheetIndex = 1)

# filter columns
data_reduced <- data %>%
    select(Authors, Author.Full.Names, Article.Title, Source.Title, Document.Type, Conference.Title, Co
```

Conduct Literature Review

```
# research questions
r_questions <- "
What are the major accommodations currently used for students with blindness and visual impairments (BV
"

# 15 example data
example_data <- data_reduced[1:50,] %>%
  toJSON(pretty = TRUE)

# result
BVI_lr <- literature_review(
  r_questions = r_questions,
  bib_data = example_data,
  structure = NULL
)
```

```
## Used tokens: 21070 + 1754 = 22824

## Price: $ 0.13166
```

Printing Out

Major Accommodations for Students with Blindness and Visual Impairments (BVI)

Braille Literacy Tools and Systems

- **Interactive Urdu Braille Learning System**: A web-based Urdu Braille Translator and interactive Braille learning tool designed to enhance the Urdu Braille learning experience for parents of visually impaired students (Iqbal et al., 2017).
- **BrailleBlocks**: A system comprising tangible blocks and pegs representing Braille cells, along with an application featuring games to help visually impaired children learn Braille alongside sighted parents (Gadiraju et al., 2020).
- **Dual Braille Code Translator**: A system that translates inputs from a keyboard into Braille characters, including Arabic Braille, to facilitate real-time interaction between visually impaired and sighted individuals (Damit et al., 2014).
- **Slate Master**: A mobile device didactic tool designed to ease learning how to use the Braille slate, consisting of a Braille tutor mobile application and a custom input interface (Lee et al., 2017).
- **BrailleBlocks for Cross-Ability Collaboration**: A system to help blind or visually impaired children learn Braille with a sighted parent, featuring wooden blocks and pegs and an interface with games (Gadiraju, 2019).

Technology and Assistive Devices

- **Effectiveness of Technology for Braille Literacy Education**: A systematic review evaluating the effectiveness of technology used to support Braille literacy education for children and youth, highlighting the need for real-time auditory and tactile feedback (Hoskin et al., 2024).
- **NAT Braille**: A free software solution designed to transcribe documents into Braille, allowing for immediate corrections and group work in inclusive education settings (Mascret et al., 2011).
- **Braille Math Extension to RoboBraille**: An automated system that transcribes documents containing math into Braille, supporting various national Braille mathematical notations (Cosma et al., 2016).
- **Braille Display by Rotating Multi-Octagonal Segment**: A low-cost Braille display device that converts text into Braille characters by rotating octagonal segments (Premkumar, 2017).

Educational Strategies and Approaches

- **Unified English Braille (UEB) Implementation**: The implementation of UEB in Australian schools, embraced by Braille teachers and students (Gentle et al., 2012).
- **Braille Literacy as a Human Right**: A study challenging the inefficiency argument against Braille instruction, showing that Braille word learning is not less efficient than auditory word learning for blind individuals (Harris et al., 2023).

- **Parents' Perspectives on Braille Literacy**: A study revealing that parents place a high value on supporting literacy at home by reading to their children and providing Braille books, despite limited availability of Braille books compared to print books (Kamei-Hannan & Sacks, 2012).
- **Teachers' Skills and Knowledge in Mathematics Education for Braille Readers**: A professional development course aimed at supporting teachers to better understand the use of assistive technology in teaching mathematics to Braille readers (van Leendert et al., 2022).

Challenges and Recommendations

- **Issues and Challenges in Education for Disabilities in Malaysia**: An analysis of the issues and challenges faced by visually impaired individuals in Malaysia, recommending improvements in the quality of education and special education programs (Noor & Mujani, 2016).
- **Current Use of Contracted and Uncontracted French Braille**: A study examining the frequency and perceptions of contracted Braille use among adults in Quebec, highlighting the need to balance Braille education with other technologies like text-to-speech (Laroche et al., 2017).

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