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(!(is.na(Abstract) | (Abstract == "")))

# 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[1:200,] %>%
  toJSON(pretty = TRUE)

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

```
## Used tokens: 93920 + 1955 = 95875

## Price: $ 0.498925
```

Printing Out

Literature Review Summary

Braille Learning Tools and Systems

- **Interactive Urdu Braille Learning System for Parents of Visually Impaired Students**: 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).
- **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).
- **BrailleBlocks**: A system comprising tangible blocks and pegs representing Braille cells, designed for collaborative Braille learning between visually impaired children and sighted parents (Gadiraju et al., 2020; Gadiraju, 2019).
- **Slate Master**: A mobile device didactic tool designed to ease learning how to use the Braille slate, including a Braille tutor mobile application and a custom input interface (Lee et al., 2017).
- **Braille to Speech Prototype Application**: An Android application that assists visually impaired individuals in reading Braille by producing speech based on the Braille pattern on the book (Ardiansah & Okazaki, 2021).

Assistive Technologies for Education

- **Making Linear Equations Accessible Using 3D Printing**: An authoring tool that helps math teachers produce accessible learning materials for linear equations in the form of 3D models with Braille captioning (Al-Rajhi et al., 2015).
- **BRAPTER: Compact Braille Transput Communicator**: A device consisting of a 'Braille e-notepad' and a compact Braille embosser to support independent living for visually impaired individuals (Shubhom et al., 2017).
- **PINDOTS**: A portable assistive Braille device blended with IoT technology for basic Braille notation writing (Martillano et al., 2018).
- **Braille - Bar Code - MP3 Method**: A method for teaching visually impaired individuals using a combination of Braille code and barcode to access audio documents (Al-jaleeli, 2019).
- **Optical Sinhala Braille Documents Conversion Methodology**: A system that converts single-sided Braille documents into Sinhala text for better communication between visually impaired and sighted individuals (De Silva & Vasanthapriyan, 2018).

Oral Health Education

- **Impact of Comprehendible Learning Modes on Oral Health**: A study comparing the effectiveness of Braille and compressed speech in improving oral health knowledge and behavior among visually impaired individuals (Vyas et al., 2018).

- **Effectiveness of Different Oral Health Education Interventions**: A study assessing the oral hygiene status and knowledge among visually impaired children using various modes of oral health education, including Braille and audio-tactile performance (Tiwari et al., 2019).
- **Effect of Oral Health Education in the Form of Braille and Oral Health Talk**: A study evaluating the effect of oral health education using Braille and oral health talk on the oral hygiene knowledge and practices of visually impaired school girls (Bhor et al., 2016).

Educational Tools and Methods

- **Braille Learning Application for Visually Impaired Students in Bangladesh**: A mobile phone-based Braille application designed to provide an easy Braille learning technology for visually impaired students in Bangladesh (Nahar et al., 2015).
- **Experiment on Teaching Visually Impaired Children Using a Mobile Electronic Alphabetic Braille Trainer**: A study on the effectiveness of a mobile electronic Braille alphabet simulator in teaching visually impaired children (Kintonova et al., 2024).
- **Braille Tutor**: A device designed to teach blind children the basic alphabets and numbers using a speakjet IC output and Bluetooth connectivity for monitoring (Joshi & Samasgikar, 2016).

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