# Individualized Instruction for Dual-Media Learners

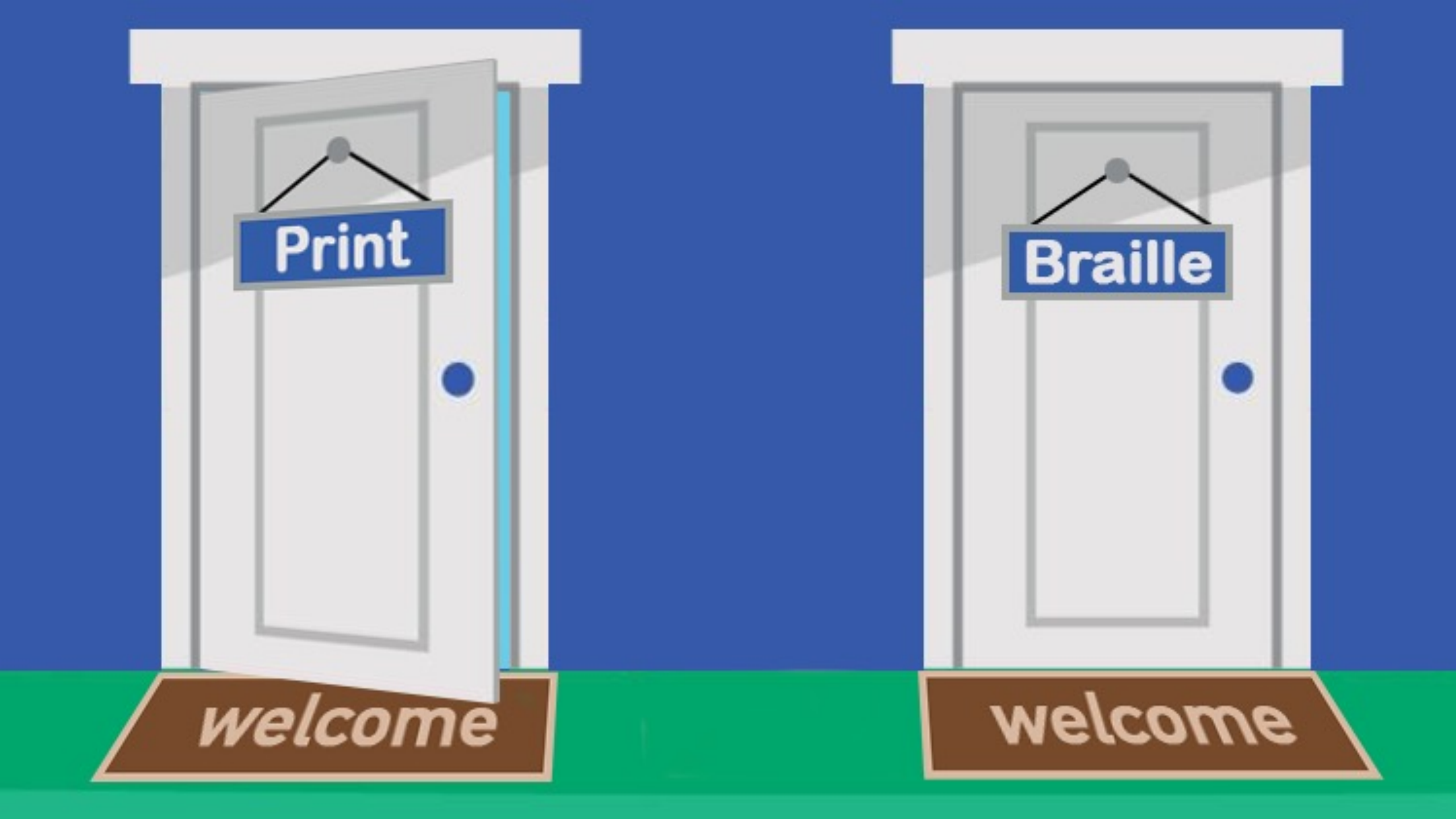
## Getting in Touch with Literacy

**St. Pete Beach, Florida**

Thursday, November 30
8:45 AM – 9.30 AM

Fabian Winter, Ph.D.
University of Teacher Education in Special Needs, Zuerich, Switzerland
fabian.winter@hfh.ch

*Accessible version available on the GITWL website.*


Print
welcome
Braille
welcome

# Table of Contents

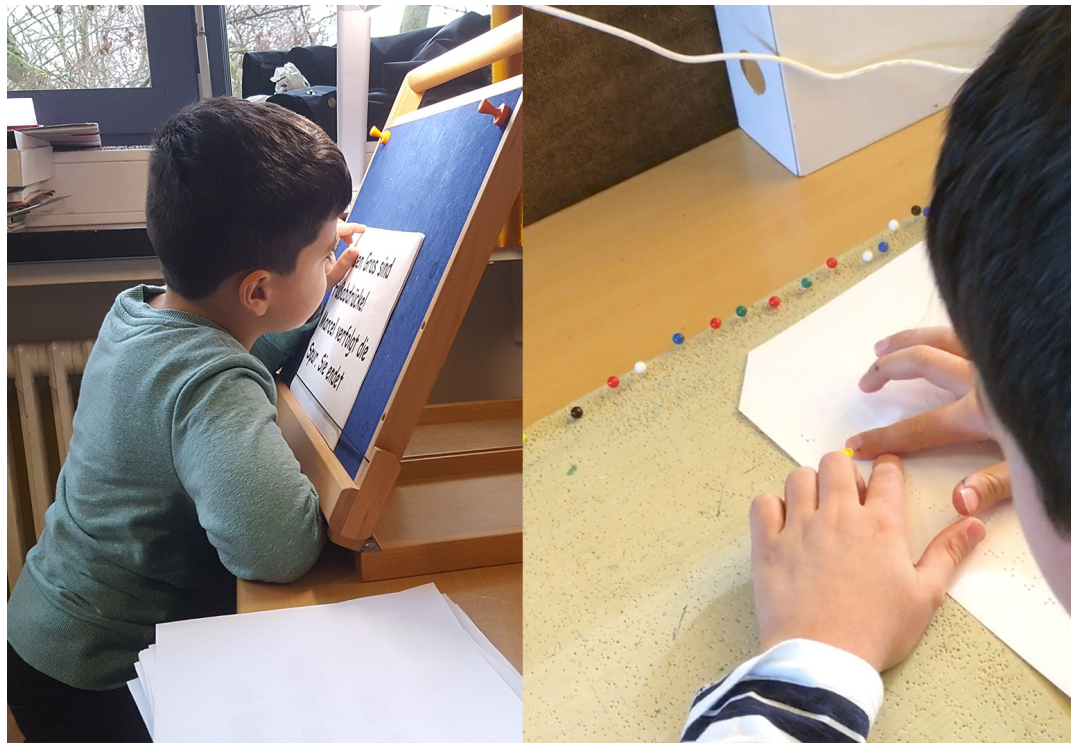

- **Part 1:** Definition, Tradition, Distinction
- **Part 2:** Literature Review
- **Part 3:** Assessment and Instruction
- **Part 4:** Case Studies


IndiviDUALized Instruction

for Dual-Media Learners

# Definition

> Children with low vision who acquire literacy skills in both print and braille are known as dual-media learners.
>
> *(Corn & Lusk, 2010, p. 258)*



[© Winter 2018]

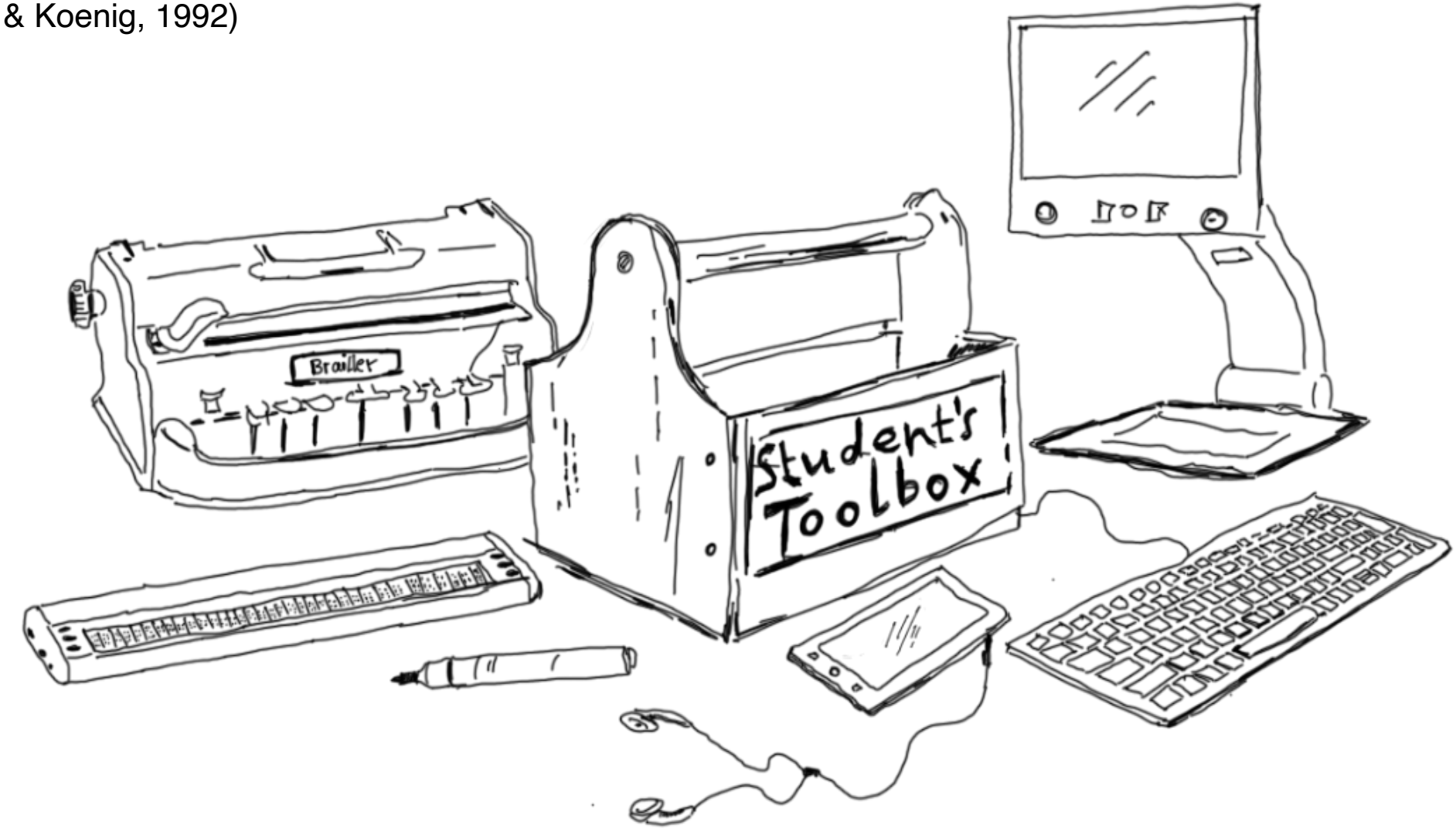
# Tradition, Legacy, and Future

- Attitudes
  - *„dual media will overburden the child“*
  - *„it‘s not possible to teach two literacy media at the same time“*
  - *“Braille is a last resort“*
- How do braille and print (and other access options) fit into an overall plan for tools in the toolbox?
- New names: Multiple Media Users, Multiple Readers, Tri-Media Students (Rosenblum & Herzberg 2020; Vik & Fellenius 2007)

> Thirty years ago [...], the guiding philosophy regarding the teaching of braille and print was that only one medium should be chosen for a child.
>
> *(Lusk & Corn 2006, p. 606)*

# Toolbox

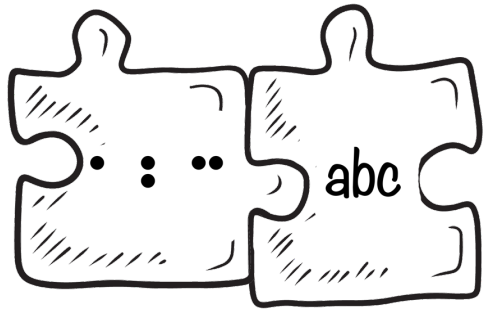
(Holbrook & Koenig, 1992)



# Distinction

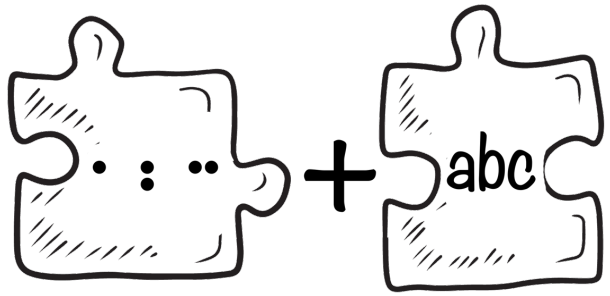
"Parallel instruction: Teaching braille and print concurrently and with the same level of intensity."

*(Holbrook et al., 2017, p. 413)*



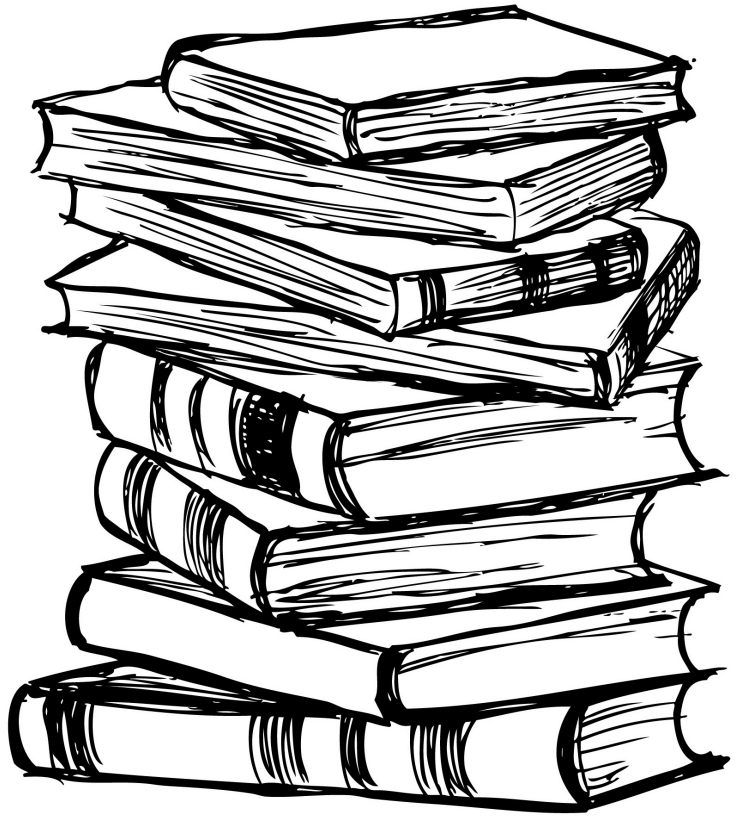

"Nonparallel instruction: Teaching braille skills at some point after students have acquired basic print literacy skills."

*(Holbrook et al., 2017, p. 413)*



# Review: Dual-Media Research

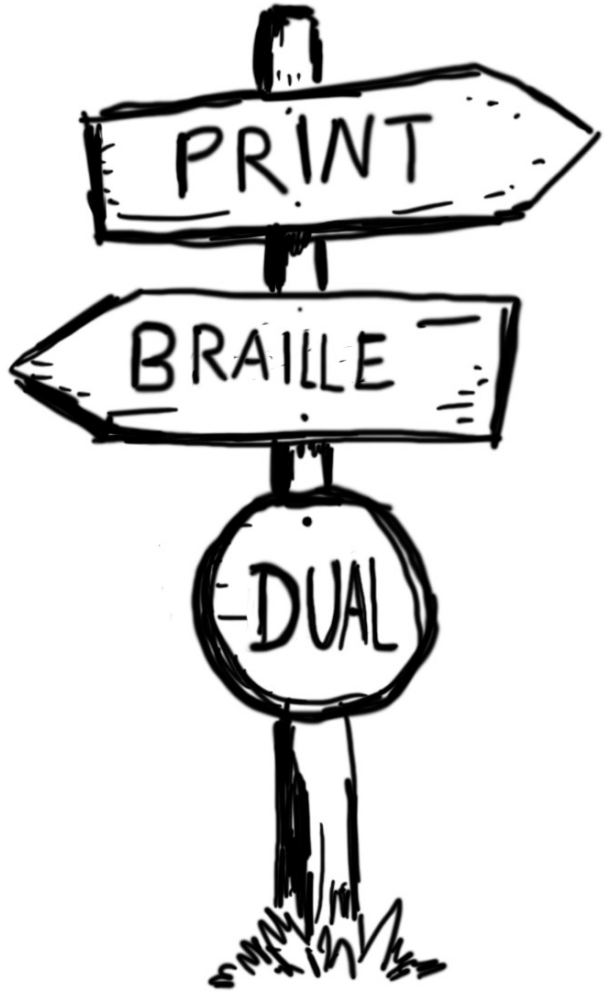
- **Studies:** from 1995 to 2022
- **Origin**: USA, Great Britain, Germany, Greece, Norway, Sweden
- **Methods**: Survey, Student Tests, Case Studies
- **Samples:** 4-42 Dual-Media Students
- **Main-Focus:** media decision-making, time, literacy skills, instruction



# State of Research

## 1) Media Decision-Making

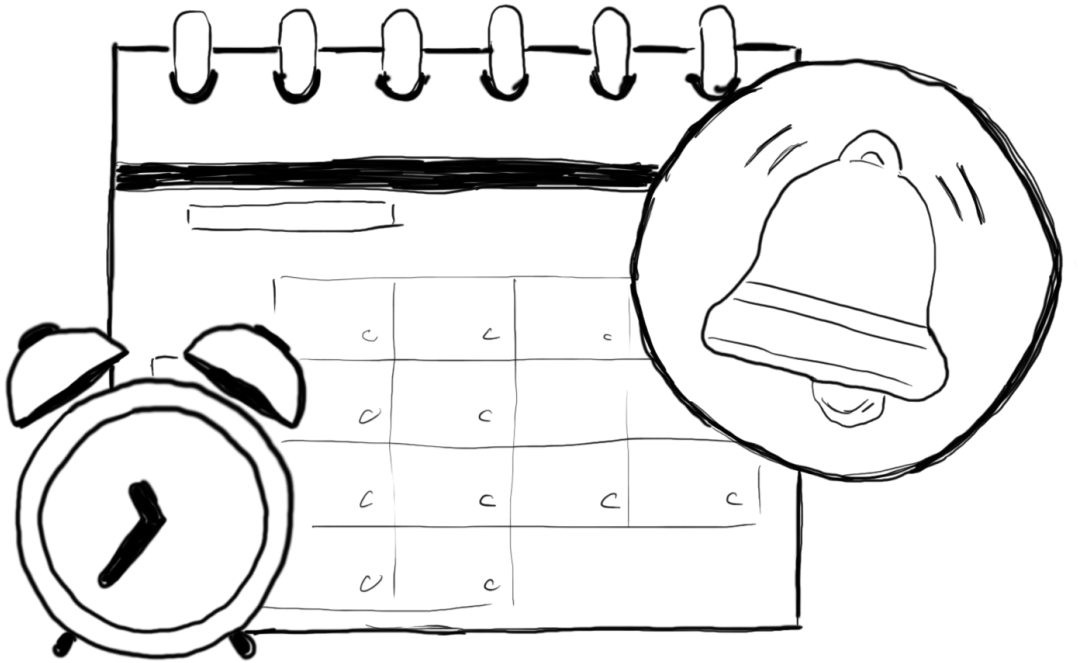
- The most common reasons for dual-media are the progressive nature of visual impairments, reading speed, and reading stamina (Herzberg et al. 2017; Lusk & Corn 2006)
- Attitudes about print and braille affect media decision and instruction (Roger,s 2007).



# State of Research

## 2) Time

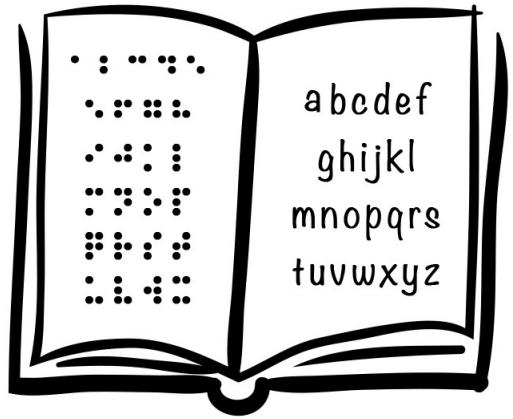
- Finding sufficient time for print and braille is a major challenge (Rogers, 2007).
- There is often more time avaible for print than for braille (Lusk & Corn, 2006b).
- According to two delphi-studies with a total of 80 experts, dual-media instructions should be direct, intense (1-2h per day) and consistent over a long time (Corn & Koenig 2002, Koenig & Holbrook 2000).

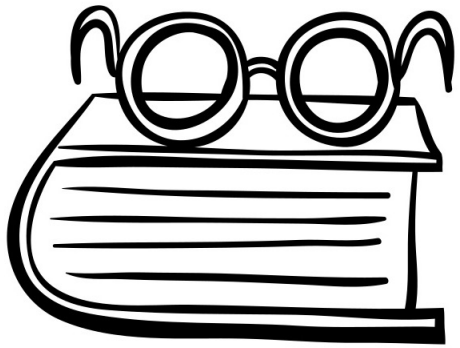


# State of Research

### 3) Literacy Skills

- Many dual-media learners show difficulty in reading fluency especially in braille (Vik & Fellenius 2007; Winter 2022).
- Initial print readers who learn braille at a later point often show difficulties in braille reading fluency.
- The later an eye disease occurs and the later braille is introduced, the less Braille is used (Goudiras. et al., 2009).

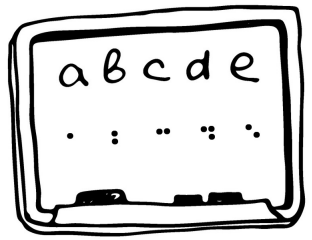


# State of Research

## 4) Instruction

- Start dual-media instruction as early as possible (Lusk & Corn, 2006a)
- Students and families need emotional support (Rosenblum & Herzberg, 2020).
- Motivation and acceptance are fundamental in dual-media instructions (Winter, 2022).
- Case studie research with dual-media learners shows that parallel instruction is promising practice (Fellenius, 1996; Winter, 2022).
- Sucesss factors in parallel instruction are motivation, sufficient time ressources and parental engagment (Fellenius 1996)



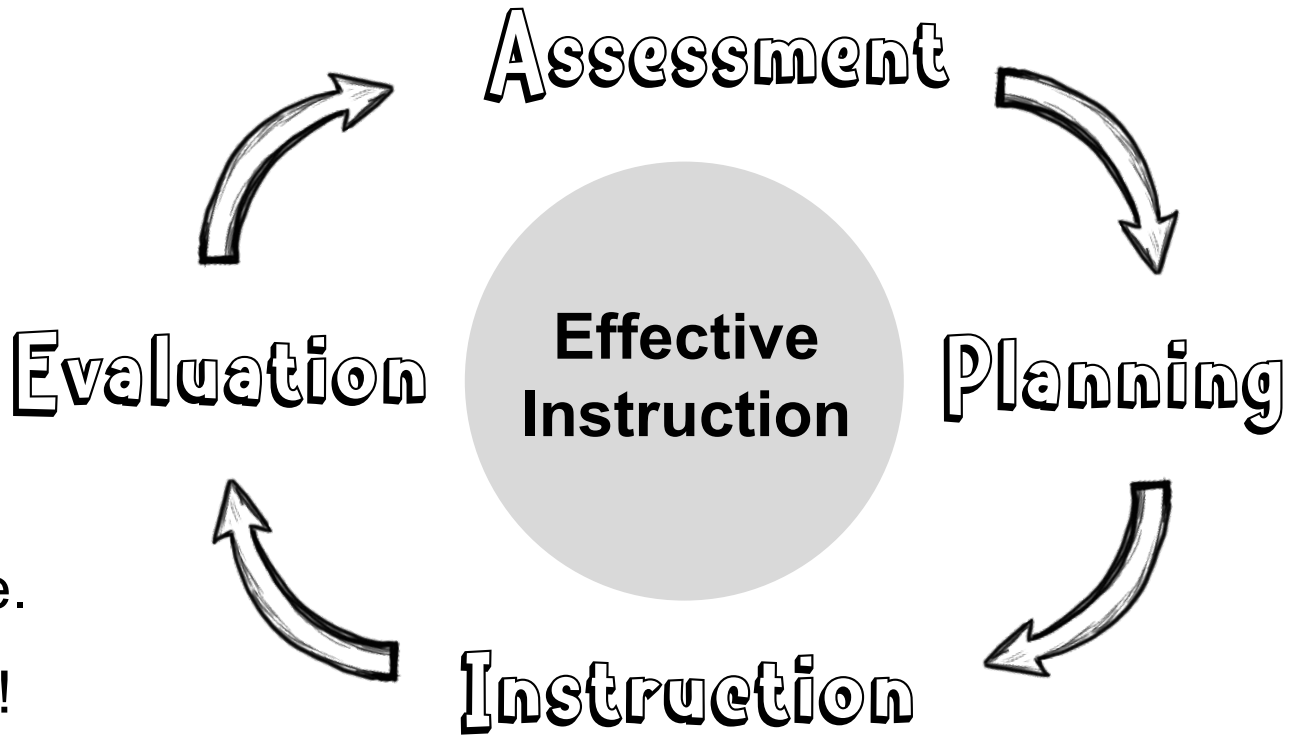
# Linking Assessment and Instruction

**Formal Assessments**

- Learning Media Assessment (LMA)
- Functional Vision Assessment (FVA)
- Access Technology Evaluation (ATA)

**Informal Assessments**

- Track the reading rates in print and braille.
- Focus on the process not on the problem!



# Assessing Reading Fluency in Dual Media

(Vacca et al., 2017, p. 237)

## Informal Assessment

1) Choose an appropiate text.
2) Adapt the text in braille and print.
3) Prepare a reading protocol.
4) Conduct the assessment.
5) Evaluate and document the results.

**Leseprotokoll | Reading Protocol**

**Name:** Ismael **Datum:** 12.02.2018

**Informationen zum Text:**

| | |
|---|---|
| Name des Textes: | *Mond, Erde und Schwerkraft* |
| Anzahl der Wörter: | *95* |
| LIX in Prozent: | *31* |
| LIX in Worten: | *sehr niedrig* |

| | Braille | Schwarzschrift |
|---|---|---|
| 1 Minute | | |
| Gelesene Wörter: | 12 | 14 |
| Falsch gelesen Wörter: | 0 | 0 |
| Richtig gelesene Wörter: | 12 | 14 |
| Auslassungen: | 1 | 0 |
| 2 Minute | | |
| Gelesene Wörter: | 9 | 13 |
| Falsch gelesen Wörter: | 1 | 0 |
| Richtig gelesene Wörter: | 8 | 13 |
| Auslassungen: | 0 | 0 |
| 3 Minute | | |
| Gelesene Wörter: | 9 | 7 |
| Falsch gelesen Wörter: | 0 | 0 |
| Richtig gelesene Wörter: | 9 | 7 |
| Auslassungen: | 2 | 0 |

| Gesamtleseleistung | | |
|---|---|---|
| | Braille | Schwarzschrift |
| Gelesene Wörter: | 30 | 34 |
| Lesezeit in Sekunden: | 180 | 180 |
| Falsch gelesene Wörter | 1 | 0 |
| Richtig gelesene Wörter | 29 | 34 |
| Auslassung | 3 | 0 |

**Mond, Erde und Schwerkraft**

Braille

Hast Du schon einmal gesehen, wie eine Frucht oder ein Gegenstand von einem Baum fällt? Hast Du schon einmal einen Stein geworfen und zugesehen, wie er herunterfällt? Die Kraft, die Gegenstände „herunterfallen" lässt, heißt Schwerkraft.

PRINT

Die Schwerkraft ist es auch, die uns stetig in Richtung Erde zieht. Wegen der Schwerkraft bleiben unsere Füße am Boden. Wir müssen die Erde nicht direkt berühren, um von ihr angezogen zu werden. Die Schwerkraft wirkt, solange wir nicht zu weit weg sind. Aufgrund der Schwerkraft umkreist die Erde die Sonne und der Mond die Erde.

# IndiviDUALized Instruction

for Dual-Media Learners

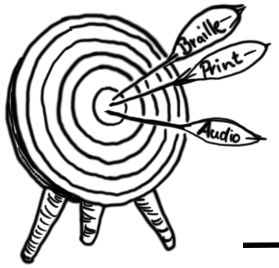
## Time

***What are the time resources?***
***Is it possible to increase them?***

## Relationships

***What can I do to increase social and emotional acceptance of instruction?***
***What can I do to increase motivation?***

## Goals




***What's your goal in braille?***
***What's your goal in print?***

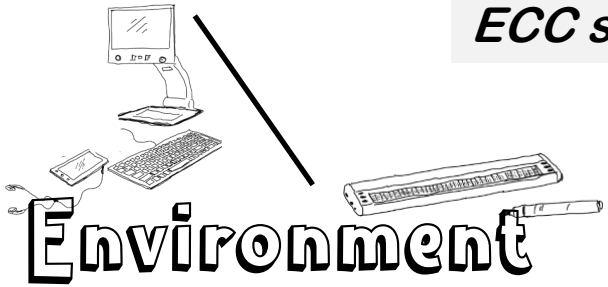
## Content

***What content from the Core Curriculum or the ECC should be taught?***

## Methods and Materials

***What's the most effective method for instruction?***
***How can we adapt the method for dual-media learners? And which material is needed?***

## Environment



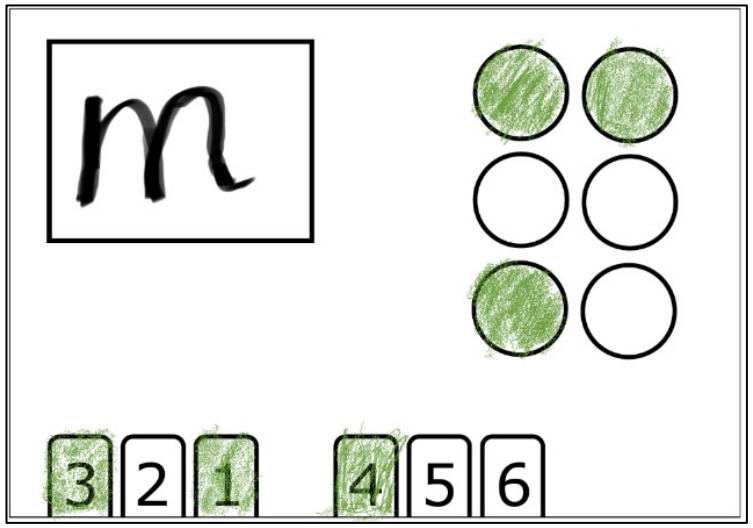
***Where does instruction take place?***
***How can we create a dual-media-friendly learning environment?***

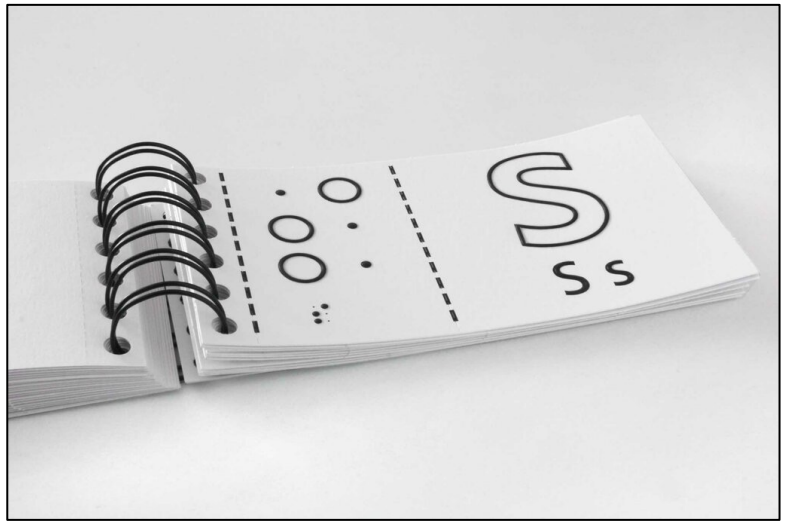
# Case Study: Ismael

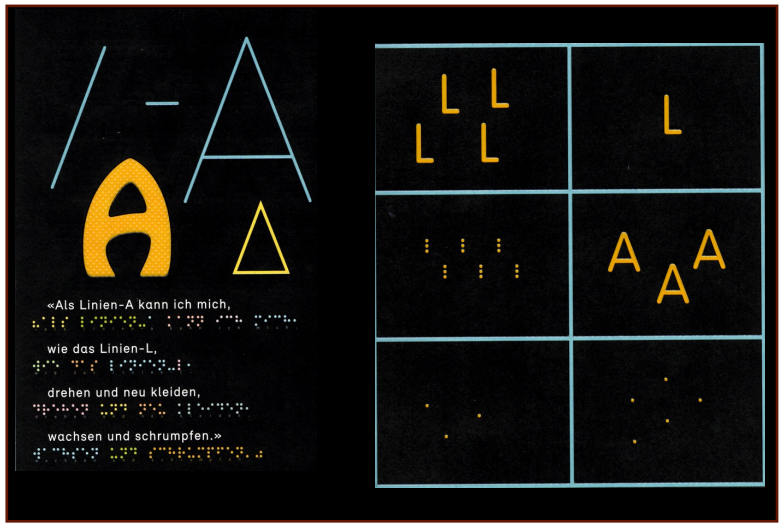
(Winter 2022, pp. 200-239)

| | |
|---|---|
| **Age:** | 6 years |
| **Grade:** | 1 |
| **Schooling:** | inclusive |
| **Diagnosis:** | glaucoma |
| **Vision \| Magnification:** | 20/500 (V.c.c.) \| 12x |
| **Preferred Sensory Channel:** | vision |
| **Observed Reading Time:** | 26 min BRL; 28 min PR |
| **Educational Team:** | TSVI, Educational Assistant |

# Materials and Methods




## Dual-Media Worksheet

- analysis of braille cell
- use vision to learn braille and print letters

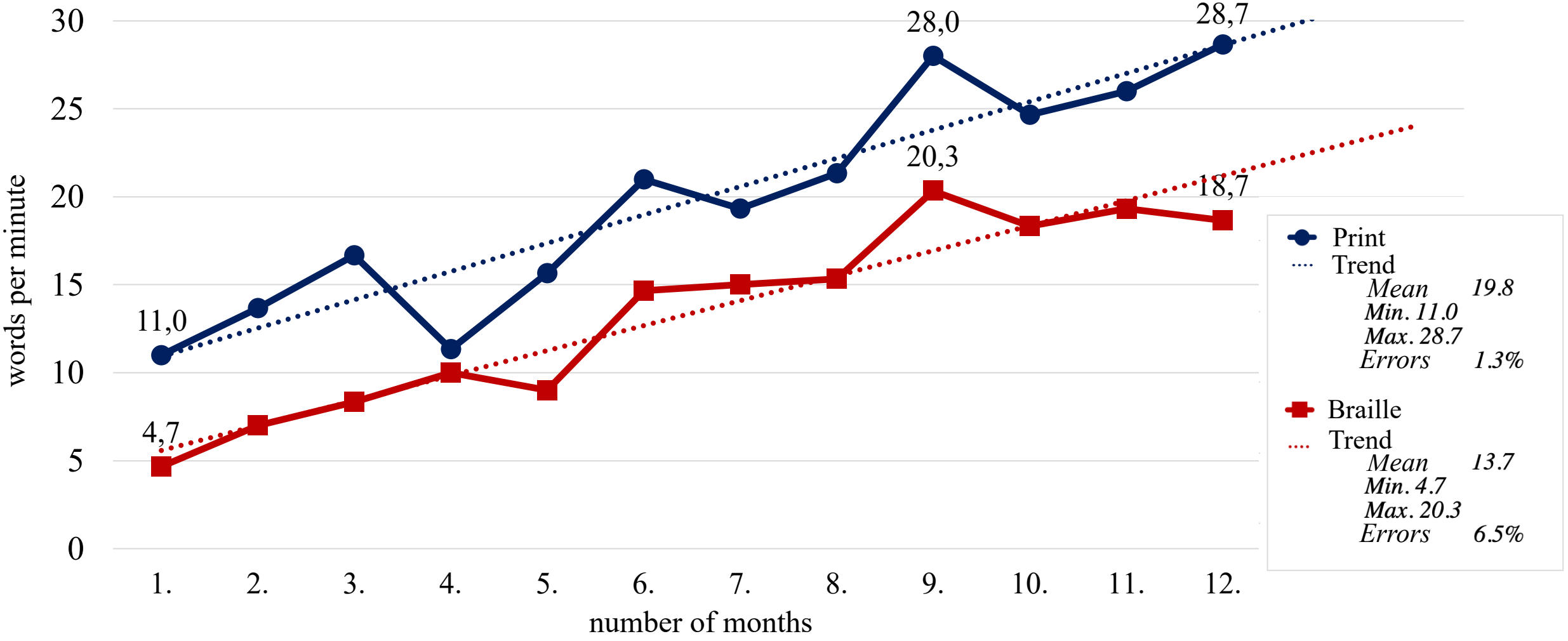
## Dual-Media ABC Book

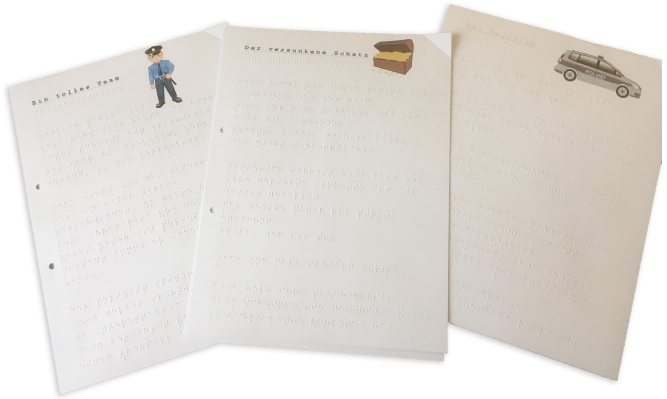
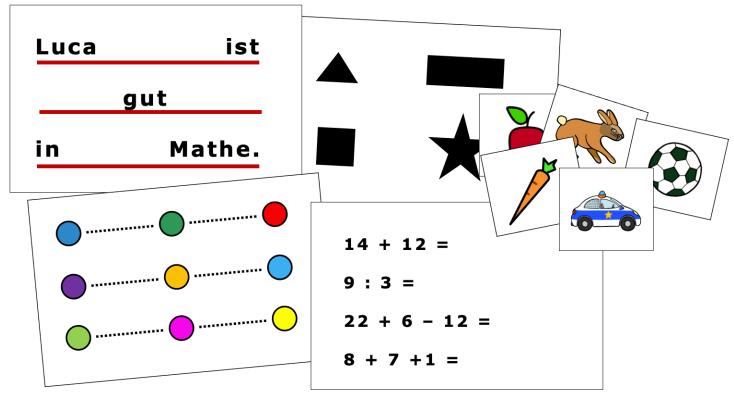
- enlarged print letters
- tracing practice
- connecting print and braille

## Emergent Literacy Book

- story of Alex and Lilani
- discover similarities and differences between braille and print letters

# Ismael‘s reading rate



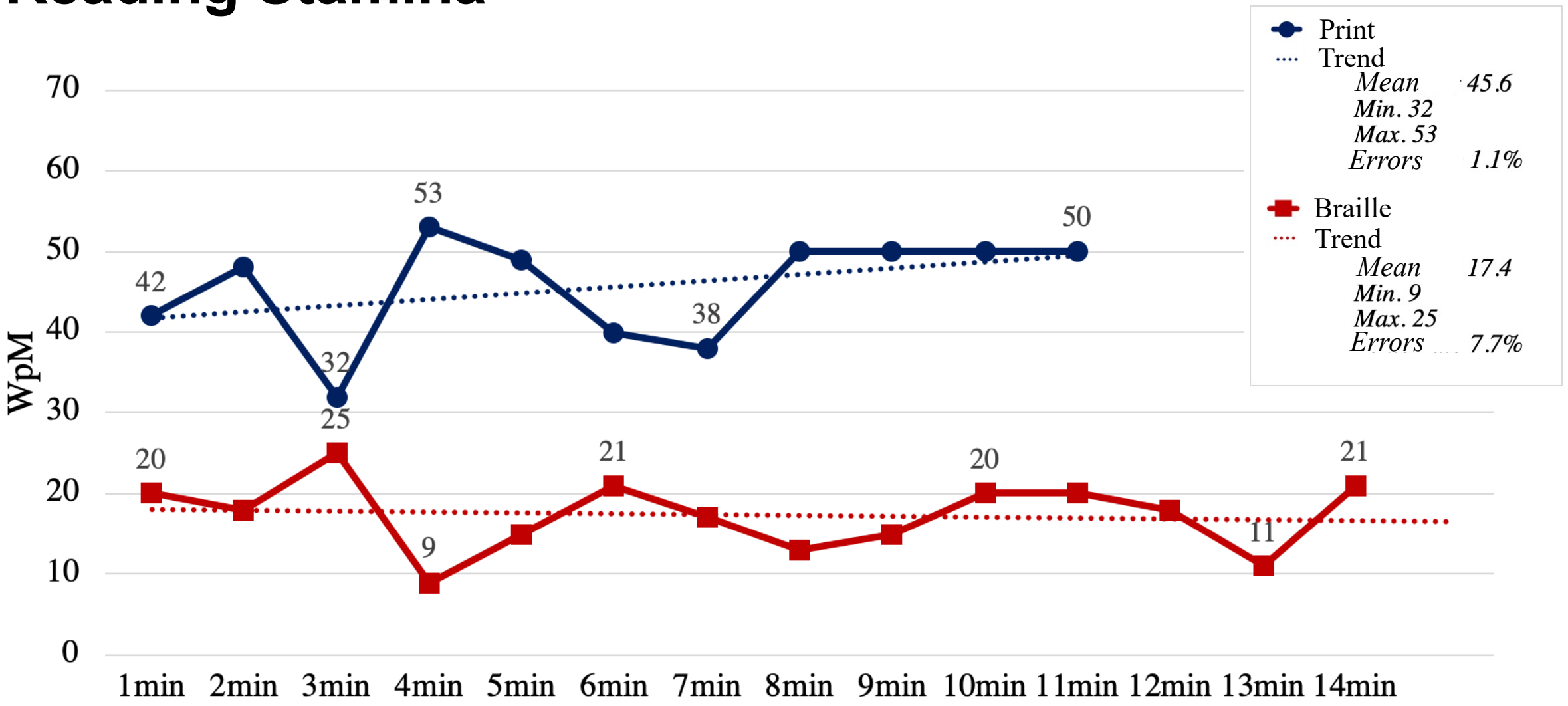
| | Braille | Print |
|---|---|---|
| **(Main) Goals** | • Increase his braille reading fluency up to 5 correct words per minute within the next three months using repeated readings. | • Introduce the new CCTV to Ismael and practice the magnification function, as well as control the X-Y table. |
| **Content** | • Core Curriculum \| Reading Fluency | • Expanded Core Curriculum \| AT |
| **Methods and Material** |  |   |
| **Environment** | • Provide parents with motivating reading material in braille.<br>• Add braille reading material to the learning station in the classroom. | • Set up the CCTV at home and in school.<br>• Show parents and classroom teacher how to use the CCTV. |

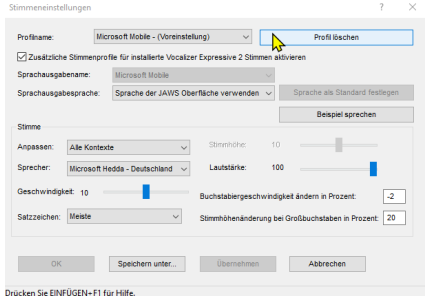
# Case Study: Shehan

(Winter 2022, pp. 311-350)

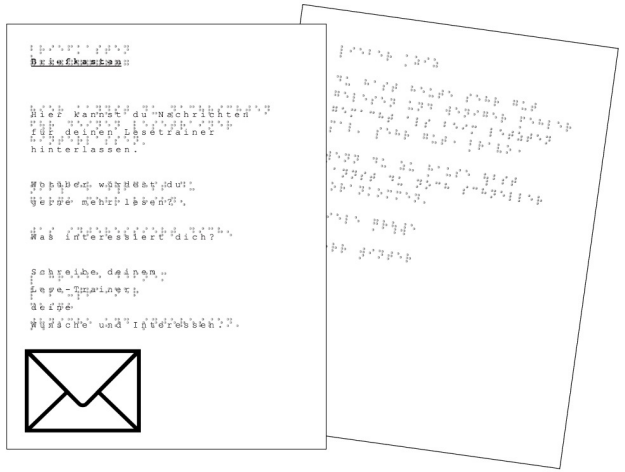
| | |
|---|---|
| **Age:** | 14 years |
| **Grade:** | 8 |
| **Schooling:** | special school |
| **Diagnosis:** | retinitis pigmentosa |
| **Vision \| Magnification:** | 20/300 (V.c.c.) \| 12x |
| **Prefered Sensory Chanel:** | auditory |
| **Observed Reading Time:** | 0 min BRL; 40 min PR; 13 min AU |
| **Educational Team:** | nine different TSVIs |

# Reading Stamina



| | Braille | Print | Audio |
|---|---|---|---|
| **Goals** | • Increase acceptance and use in daily routines.<br>• Increase braille reading fluency to a level of idependent, automated reading. | • Use smartphone to access short reading passages like a menu plan, personal timetable, and room numbers. | • Use different settings for reading speed according to the reading task (e.g. reading for comprehension, reading for an overview) |
| **Content** | • Core Curriculum<br>• ECC | • ECC \| Independent Living \| Orientation & Mobility \| Access Technology | • Core Curriculum (→ in Switzerland, listening skills are included)<br>• ECC \| Access Technology |
| **Material and Methods** | | |   |
| **Relation-ships** | • Connect with other dual-media learners.<br>• Add braille to situations and topics of student interest.<br>• Use positive behavior feedback for braille reading. | • Include other professionals in the dual media instruction like AT experts, rehabilitation specialists and family. | • Start a conversation about the pros and cons of speech output in various situation. |

# Methods and Materials

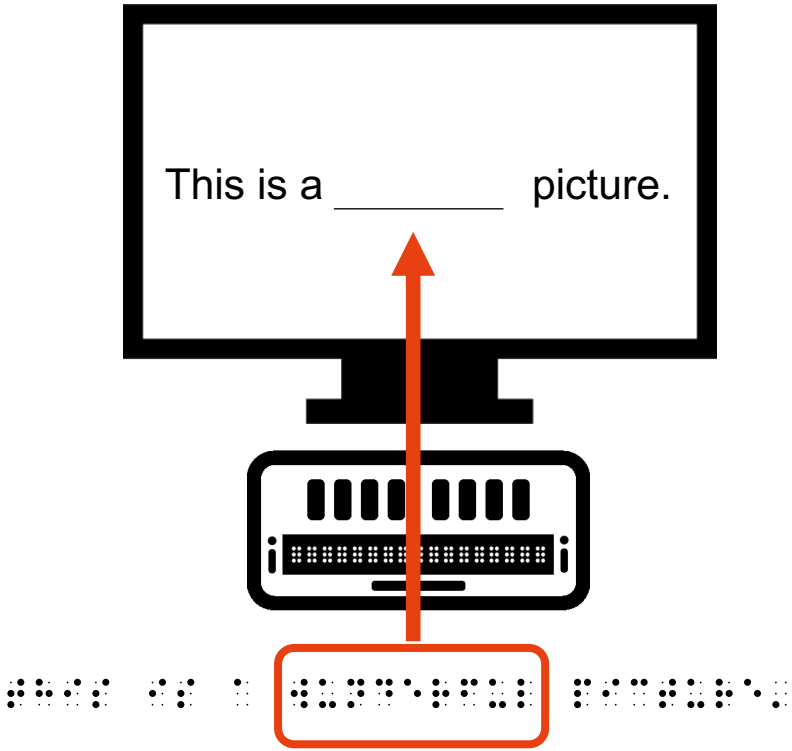


## Feedback Letters in Braille

- focus on the learning process
- increase motivation
- break the concept of being a non-reader

## Games

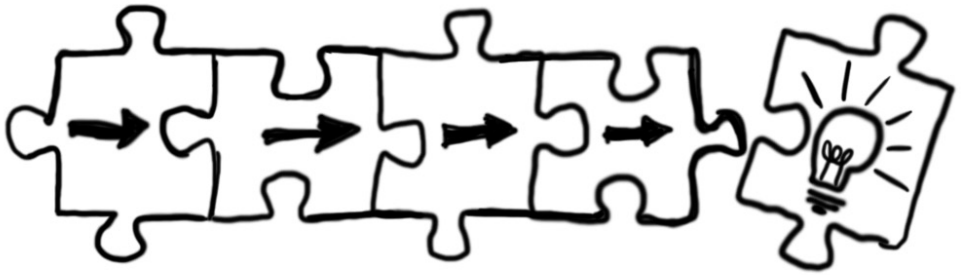
- fun activties and topics of interest
- practice braille in playful manner




## Gap Reading

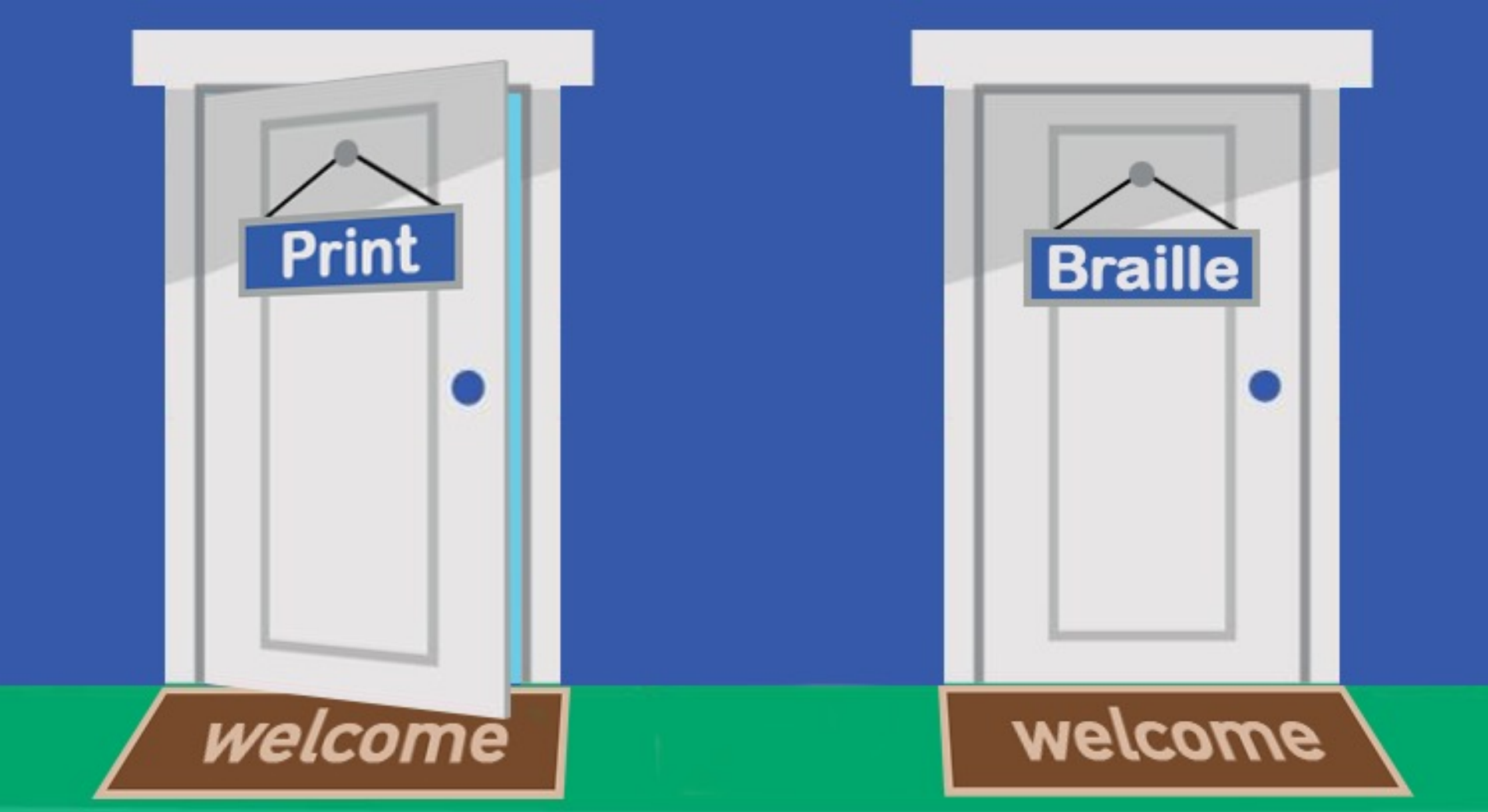
- read braille and print simultaneously
- use technology

# Conclusions



- Begin dual-media instructions as early as possible.
- Teach dual-media students by incorparating assessment, planning, and ongoing instructions.
- Create a dual-media instructional plan for each reading medium and with the six dimensions in mind (e.g. goals, environment, etc.).

- Share creative ideas on methods and materials in dual media.
- Research on which methods and materials work best in dual media.
- Research on the effect of parallel and non-parallel instruction.
- Develop a dual-media curriculum.


Print
welcome
Braille
welcome

# The House of Literacy

Fabian Winter, Ph.D.

University of Teacher Education
in Special Needs
Zuerich, Switzerland

fabian.winter@hfh.ch

# Literature


Corn, A. L. & Koenig, A. J. (2002). Literacy Instructions for Student with Low Vision: A Framework for Delivering Instructions. *Journal of Visual Impairment & Blindness*, *95*(5), 305–321.

Fellenius, K. (1996). *Reading skills of the visually impaired.: experiences from reading training of eight pupils*. Institute of Education Press.

Goudiras, D. B., Papadopoulos, K. S., Koutsoklenis, A. C., Papageorgiou, V. E. & Stergiou, M. S. (2009). Factors affecting the reading media used by visually impaired adults. *British Journal of Visual Impairment*, *27*(2), 111–127.

Holbrook, C. & Winter, F. (März 2021). *Supporting Dual Media Users: Foundation, Assessment and Instructions.* Next Sense. Royal Institute for Deaf and Blind Children, Sydney. https://shortcourses.ridbc.org.au/events/supporting-dual-media-users/

Holbrook, C., D'Andrea, F. M. & Wormsley, D. P. (2017). Literacy Skills. In C. Holbrook, T. McCarthy & C. Kamei-Hannan (Hrsg.), *Foundations of education: Instructional Strategies for Teaching Children and Youths with Visual Impairments* (Third edition, S. 374–426). AFB Press American Foundation for the Blind.

Holbrook, C. & Koenig, A. J. (1992). Teaching Braille Reading to Students with Low Vision. *Journal of Visual Impairment & Blindness*, *86*(1), 44–48.

# Literature


Koenig, A. J. & Holbrook, C. (2000). Ensuring High-Quality Instruction for Students in Braille Literacy Programs. *Journal of Visual Impairment & Blindness*, *94*(11), 677–694.

Koenig, A. J. & Holbrook, C. (1995). *Learning media assessment of students with visual impairments: A resource guide for teachers* (2nd ed.). Texas School for the Blind and Visually Impaired.

Lang, M., Hofer, U. & Winter, F. (2021). The Braille reading skills of German-speaking students and young adults with visual impairments. *British Journal of Visual Impairment*, *39*(1), 6-19. https://doi.org/10.1177/0264619620967689

Lusk, K. E. & Corn, A. L. (2006a). Learning and Using Print and Braille: A Study of Dual-media Learners. *Journal of Visual Impairment & Blindness*, *100*(10), 606–619.

Lusk, K. E. & Corn, A. L. (2006b). Learning and Using Print and Braille: A Study of Dual-Media Learners, Part 2. *Journal of Visual Impairment & Blindness*, *100*(11), 653–665.

Rogers, S. (2007). Learning braille and print together - the mainstream issues. *British Journal of Visual Impairment*, *25*(2), 120–132.

Rosenblum, L. P. & Herzberg, T. S. (2020). Perspectives on Literacy by Four Adolescents, Their Teachers, and Family Members. *Journal of Visual Impairment & Blindness*, *114*(3), 185–197. https://doi.org/10.1177/0145482X20923441

# Literature


Vacca, J. A. L., Vacca, R. T., Gove, M. K., Burkey, L. C., Lenhart, L. A. & McKeon, C. A. (2015). *Reading and Learning to Read* (Ninth edition). *Always learning*. Pearson.

Vik, A. K. & Fellenius, K. (2007). Coping Strategies in Reading: Multi-readers in the Norwegian General Education System. *Journal of Visual Impairment & Blindness*, *101*(9), 545–556. https://doi.org/10.1177/0145482X0710100904

Winter, F. (2022). *Duale Schriftnutzung: Brailleschrift und Schwarzschrift: Eine sequenzielle, explanative Mixed-Methods Studie* (1. Aufl.). *Springer eBook Collection*. Springer Fachmedien Wiesbaden; Imprint Springer VS. https://doi.org/10.1007/978-3-658-37928-5

Winter, F., Hofer, U. & Lang, M. (2019). Lese- und Schreibkompetenzen von Jugendlichen und jungen Erwachsenen mit dualer Schriftnutzung: Forschungsergebnisse aus dem Projekt Zukunft der Brailleschrift. *blind-sehbehindert*, *139*(2), 92–108.