



**Open Universiteit**

# **Real-Time Remote Coaching of Teachers at a Distance**

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## Overview of the presentation

- Real-time coaching
  - What is it?
  - Theoretical underpinning (very short)
- Real-time **remote** coaching
- EarCoach app (demonstration)

# Real-Time coaching





## Coaching of pre-service Teachers

- Who:
  - **Pre-service teachers** of teacher training institutions (initial teacher education)
  - Potentially also **in-service teachers** during the first five years (induction phase)
- What: Compulsory internships for practicing teaching skills in an authentic classroom
- Why: Improving teaching skills with respect to, for example:
  - **Classroom management** (i.e., keep order and safety in the classroom)
  - **Instructional skills** (i.e., take care that everyone is learning)
  - **Pedagogical relationship** with learners (i.e., create the supportive and emotional bond between teacher and learner)
- How: Providing performance feedback to the pre-service teacher (i.e., coaching)



## Real-time coaching of pre-service teachers

- Traditionally:
  - **During the lesson:** the coach is sitting at the back of the classroom, observing the actions and behaviours of the pre-service teacher
  - **After the lesson:** the coach and pre-service teacher have a post-conference in which the feedback is given. Because the feedback is given after the lesson, it is referred to as **delayed feedback**.
- However: Technology made it possible that performance feedback can also be provided **during the lesson**.
  - ❑ This technology involves a earpiece, often referred to as **bug-in-ear (BIE) device**, that is worn by the pre-service teacher.
  - ❑ Using a microphone, the coach can sent the feedback messages to the pre-service teacher.
  - ❑ Because the feedback is given during the lesson, it is referred to as **immediate feedback**.
  - ❑ When the coach is providing immediate feedback messages, we designate this form of coaching as **real-time coaching**.





## Real-time coaching of pre-service teachers





# Real-time remote coaching



## Real-time remote coaching of pre-service teachers

- Problem: What if on-site visits are impossible for the coach?
  - Case 1: Internship schools are far geographically distant from the teacher training institution or very widely dispersed.
  - Case 2: Distance education institutions providing teacher training, which have only distance students and, by definition, cannot rely on the physical presence of coaches at internship school locations.
- Solution: Researchers have proposed the use of remote bug-in-ear (BIE) coaching that is complemented by video-streaming technologies
  - Rock et al. (2009), for example, employed an ultra-wide-angle webcam to provide a broad field of view, a Bluetooth headset, a Bluetooth adapter connected to a desktop computer, and Skype for bidirectional video streaming. This setup enabled mutual visual access between the teacher educator and the student teacher.





## Real-time remote coaching of pre-service teachers



<https://www.youtube.com/watch?v=pwFxjm9B6IA>



## Real-time remote coaching of pre-service teachers

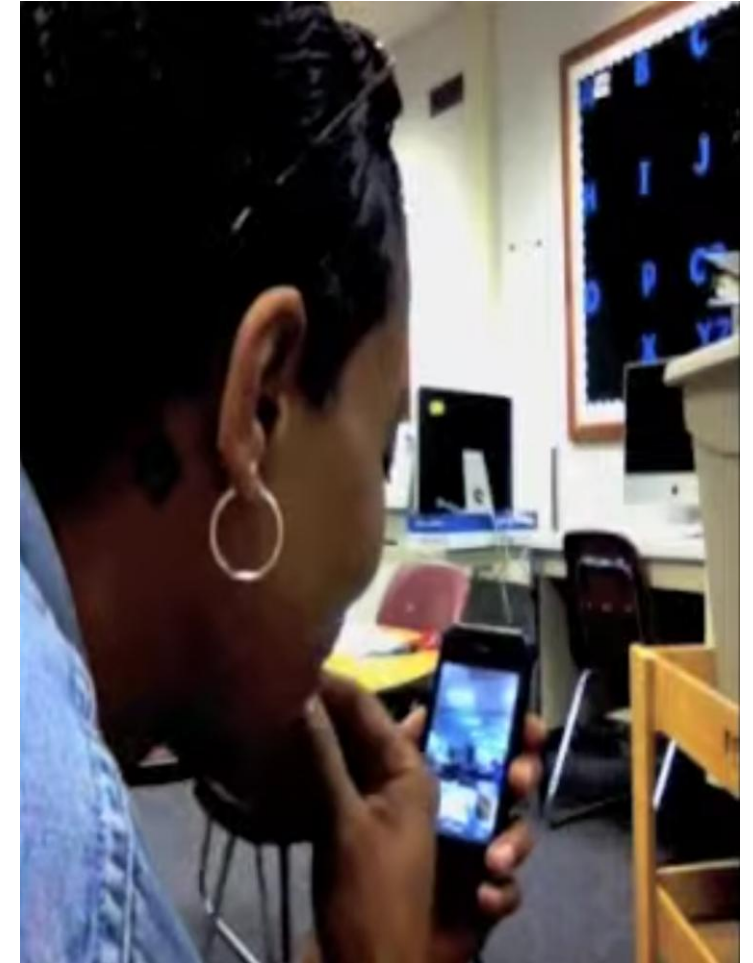
- Implementations like the one of Rock et al. (2009) were merely motivated by how to bridge the geographical distance (see: Scheeler et al., 2012; Taylor et al., 2025). Equipment specifications were therefore largely driven by technical feasibility rather than by pedagogical considerations.
- We argue that the selection and configuration of technological tools should be guided by theoretically grounded principles concerning the optimization of performance feedback.
- One important theory is Endsley's (1995, 2000) concept of situational awareness. **Situational awareness** refers to "knowing what is going on around you" (Endsley, 2000, p. 5). When classroom management is the focus of the teaching skills, this concept of situational awareness is fruitful to start from. In order to get full situational awareness, **every corner of the classroom should be made visible** to the coach.



## Real-time remote coaching of pre-service teachers

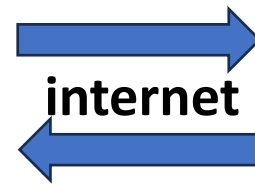
- Existing solutions offer only a limited view of the classroom, rather than a complete oversight of everything that is happening in the classroom.
- Thus, the coach is also in great need to develop a full situational awareness of the classroom environment but because of the limitation is unable to develop this situational awareness, which in turn compromises the quality of immediate feedback and may even lead to inaccurate assessments.
- Solution: We propose a solution to this problem.

<https://www.youtube.com/watch?v=pwFxjm9B6IA>





## Real-time remote coaching of pre-service teachers





## Real-time remote coaching of pre-service teachers

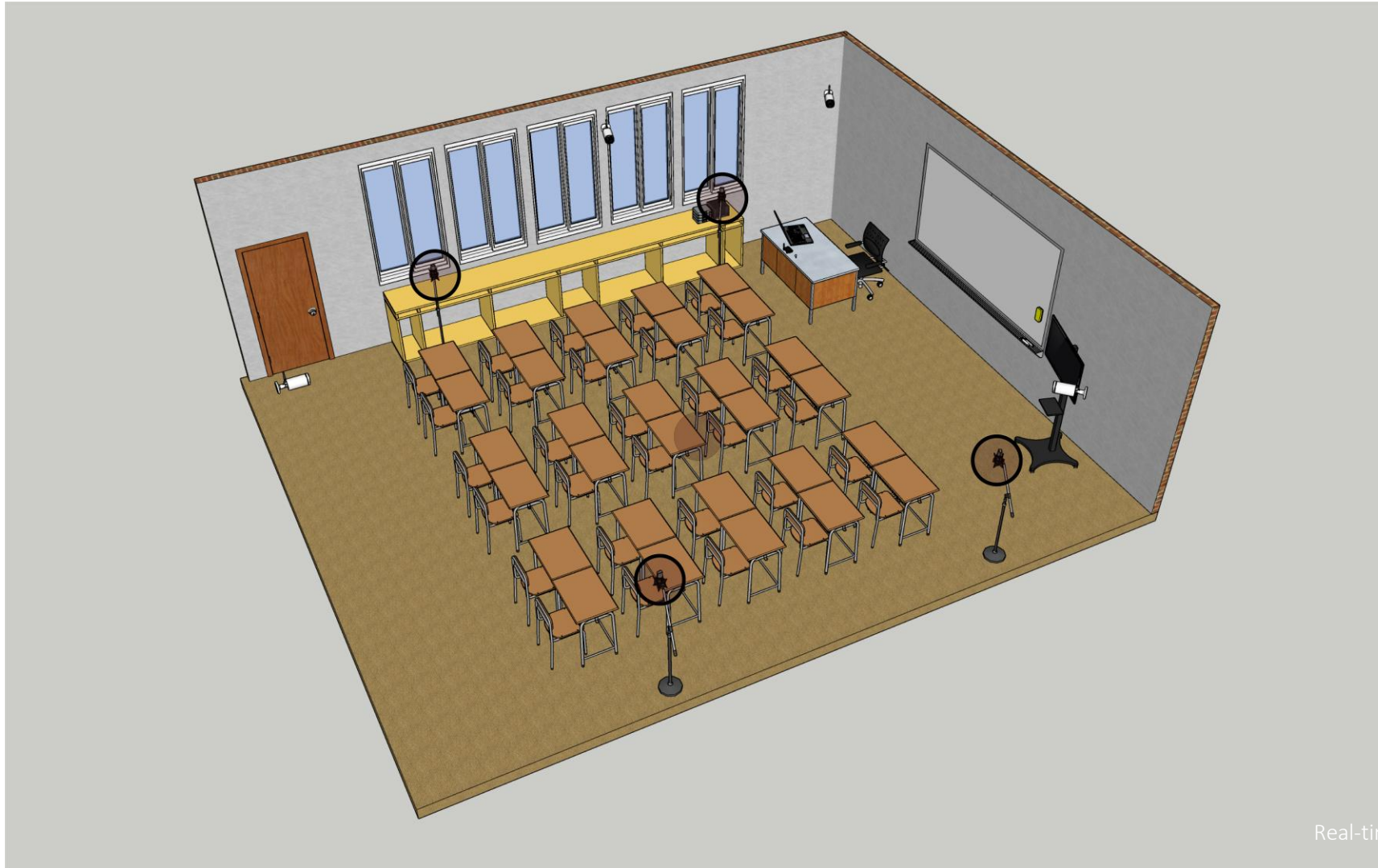






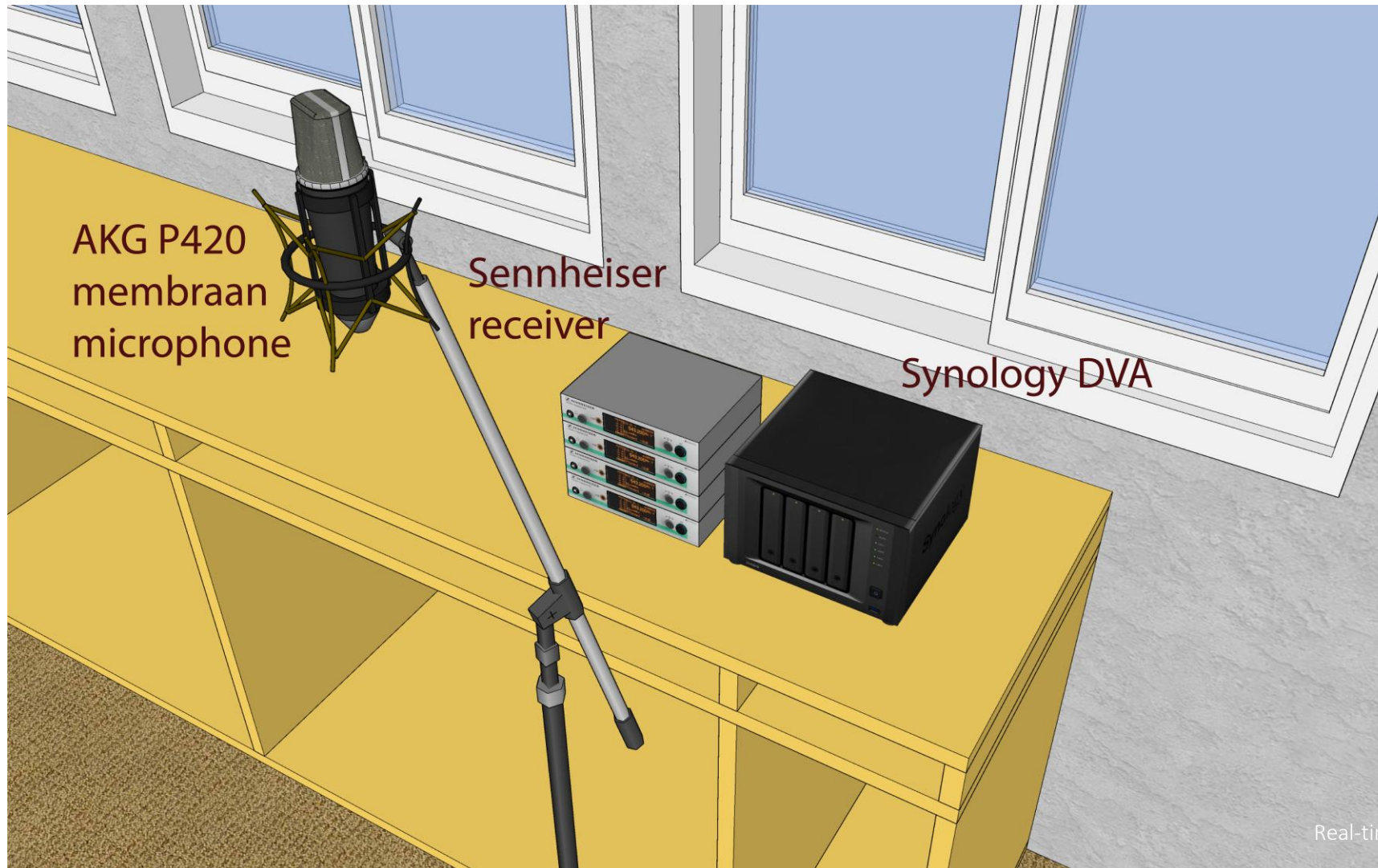


## Real-time remote coaching of pre-service teachers





## Real-time remote coaching of pre-service teachers





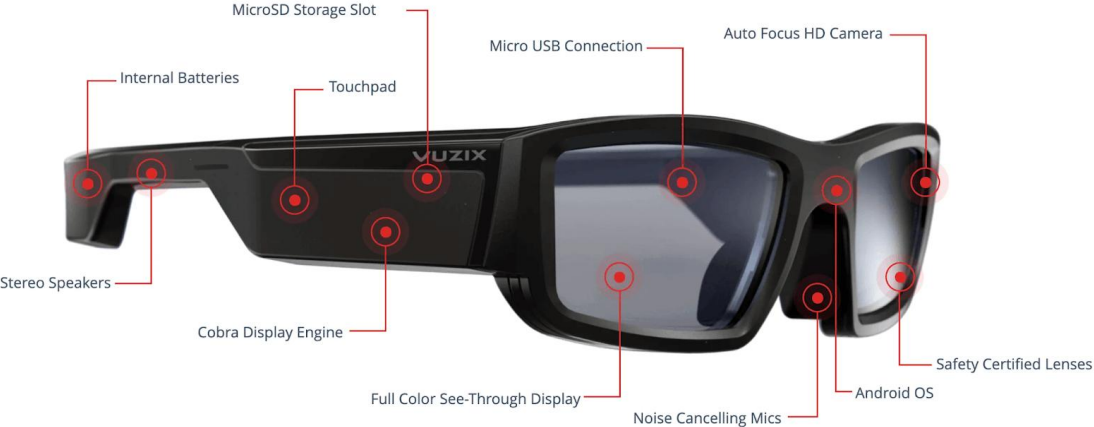


## Real-time remote coaching of pre-service teachers





# Real-time remote coaching of pre-service teachers



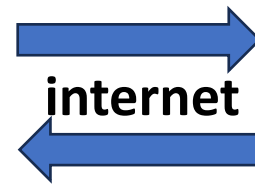
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Smart glasses



EYE-ETV-01  
Eye-tracking glasses



## Real-time remote coaching of pre-service teachers





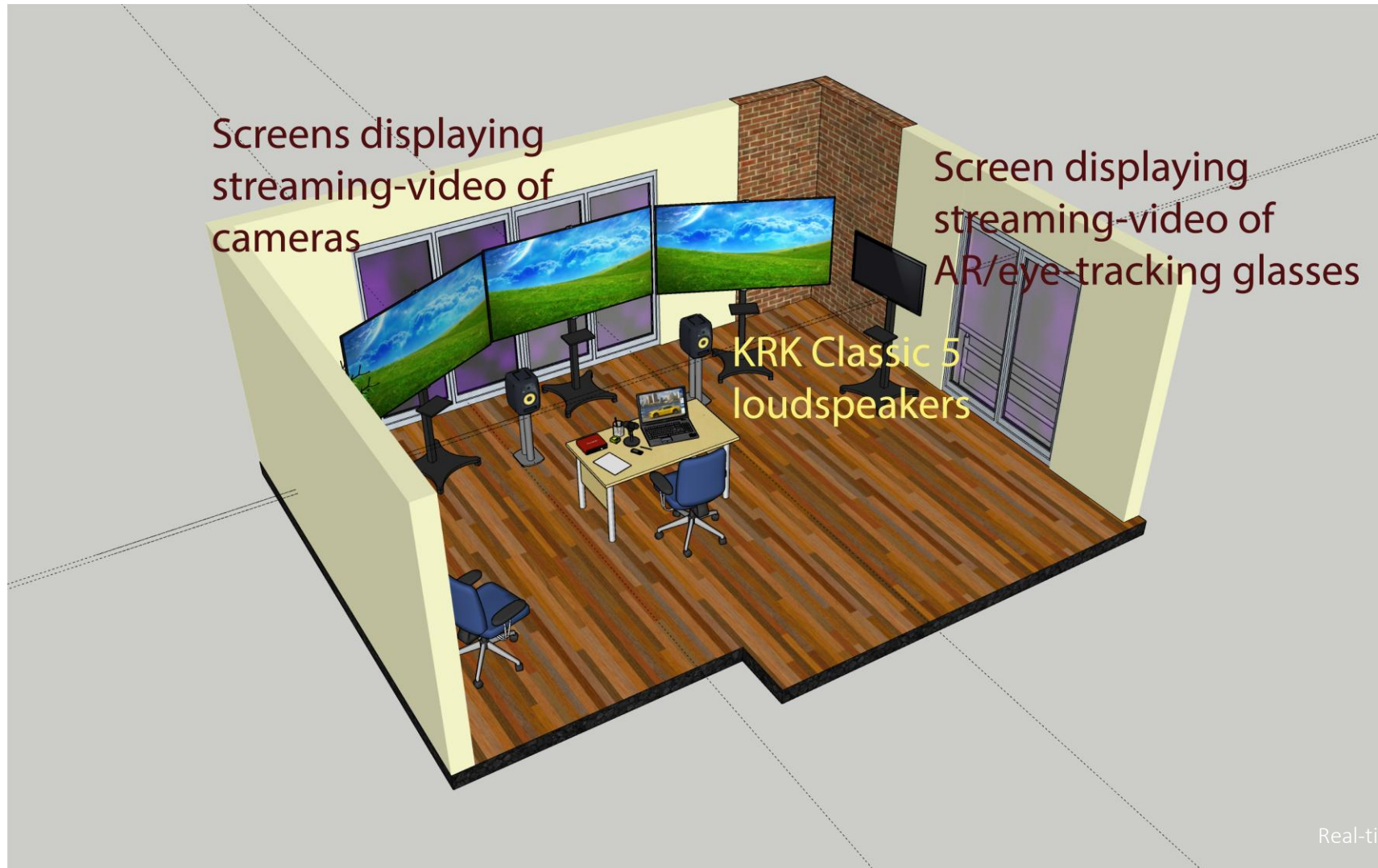


## Real-time remote coaching of pre-service teachers





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## Real-time remote coaching of pre-service teachers







## EarCoach app (demonstration)

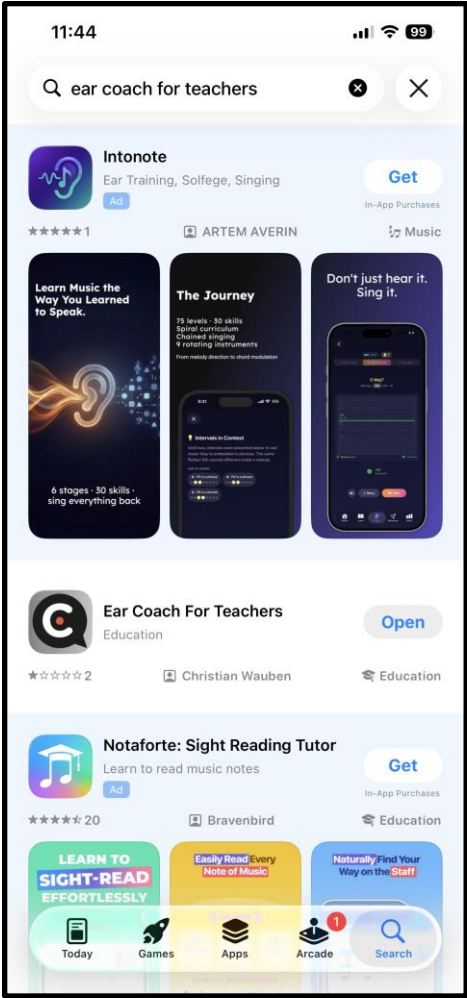
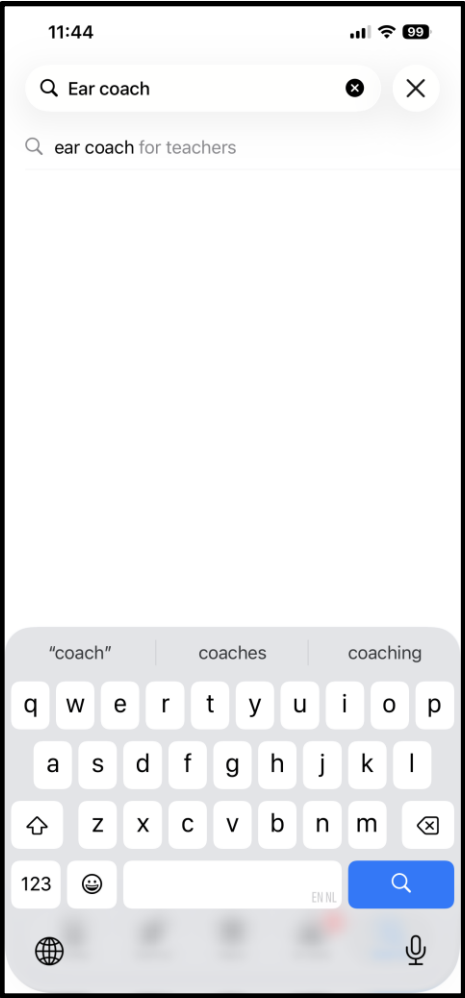


## EarCoach app (demonstration)

- The EarCoach app is an application that enables BIE-coaching.
- Developed by **Fontys University of Applied Science** (Maurice Smeets & Frank Crasborn) en **Open Universiteit Nederland** (Karel Kreijns & Kamakshi Rajagopal).
- Available for **Apple IOS** (Apple App Store) en **Android** (Google Play).
- No need to pay for the EarCoach app:
  - Demo mode: Use of the app for ten minutes.
  - Registered mode: Access to all functions of the app.
- No set of pre-defined keywords; all keywords have to be created.
- SMS feature to sent feedback messages.
- Integrated tekst-to-speak module (male voice)
- Communicates with the BIE via Bluetooth
- Limitations:
  - Only available from Dutch App Store and Google Play
  - Only in the Dutch language

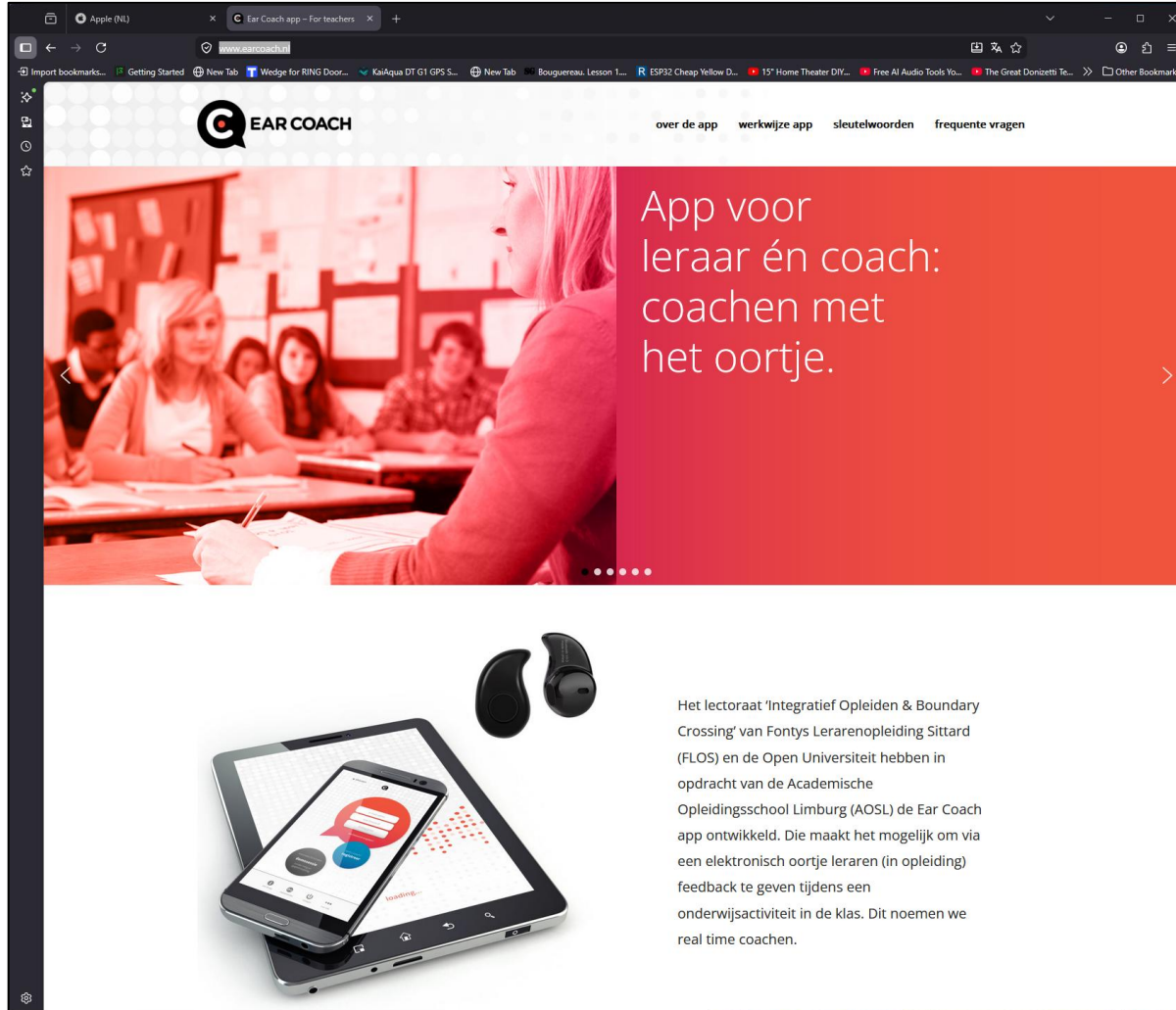


# EarCoach app (demonstration)





## EarCoach app (demonstration)



<http://earcoach.nl>





## EarCoach app (demonstration)

afsluiten

e-mail adres

wachtwoord

vul alle velden in

nog geen profiel?  
**registreer**

maximaal 10 minuten  
**demosessie**  
zonder inlog en  
gegevensopslag

werkwijze app sleutelwoorden uitloggen meer info

terug

registreer coach

Jan

Leraar

jan.leraar@gmail.com

vrouw man

2000 taal

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roepnaam van je moeder

Maria

favoriete schoolvak

Geschiedenis

werkwijze app sleutelwoorden uitloggen meer info

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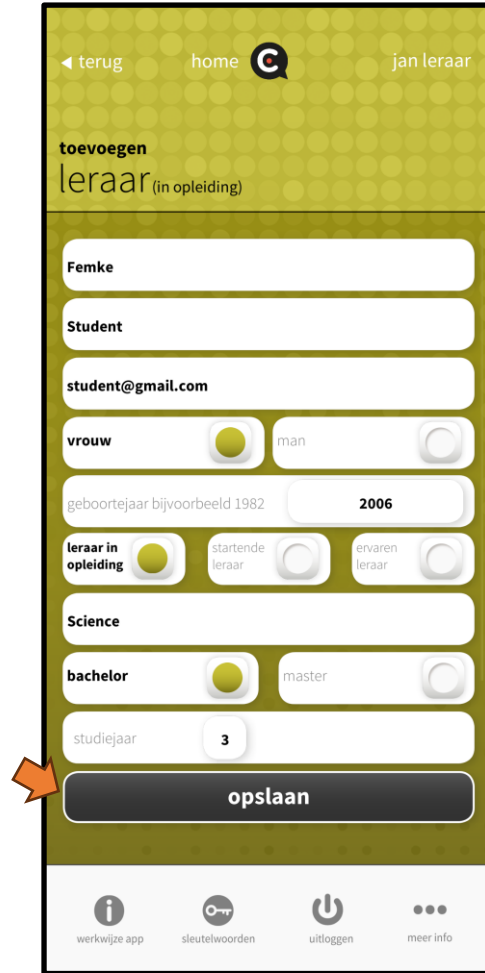
mijn gegevens mogen anoniem gebruikt worden voor onderzoek. [lees meer](#)

**registreer**

werkwijze app sleutelwoorden uitloggen meer info



## EarCoach app (demonstration)





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## EarCoach app (demonstration)





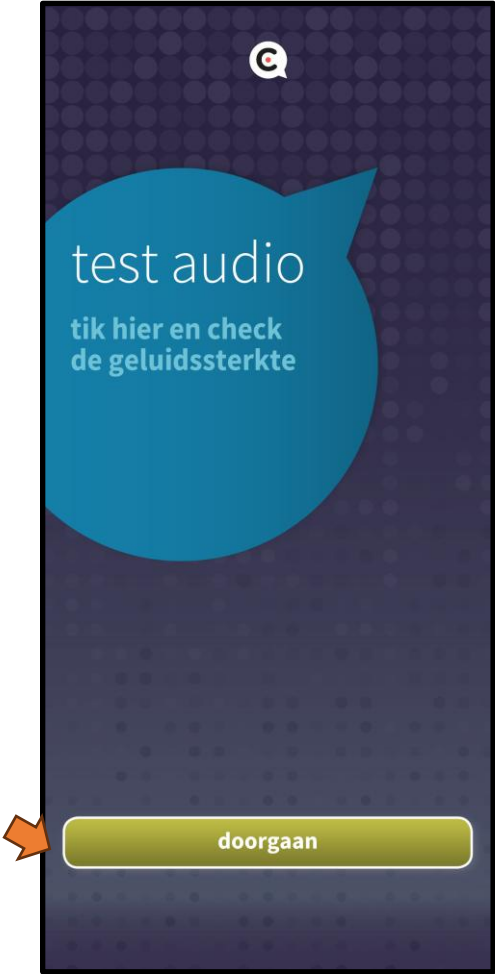
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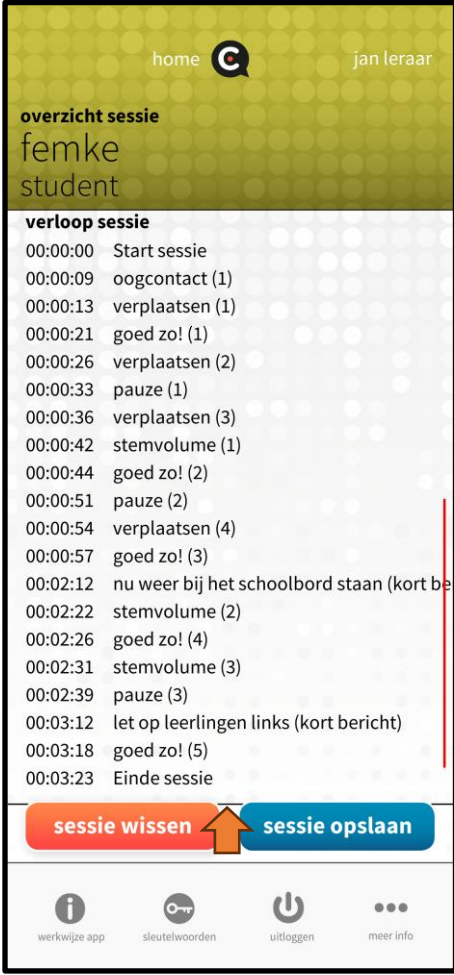
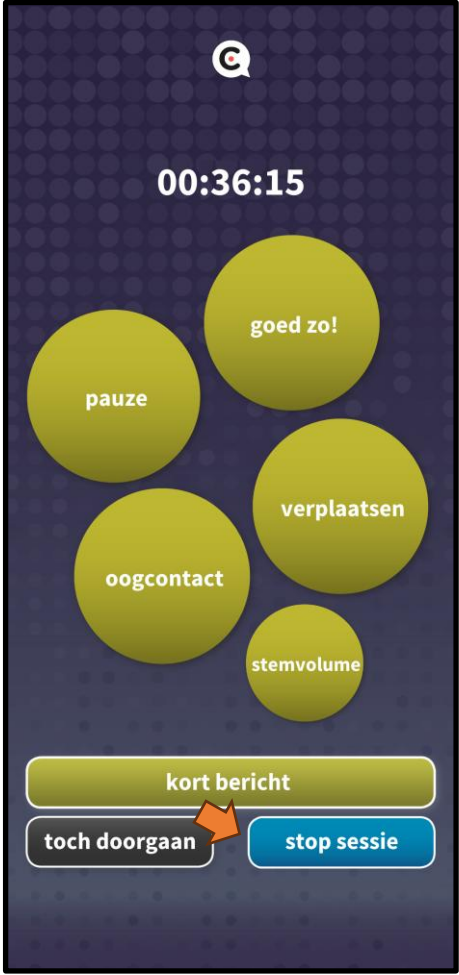


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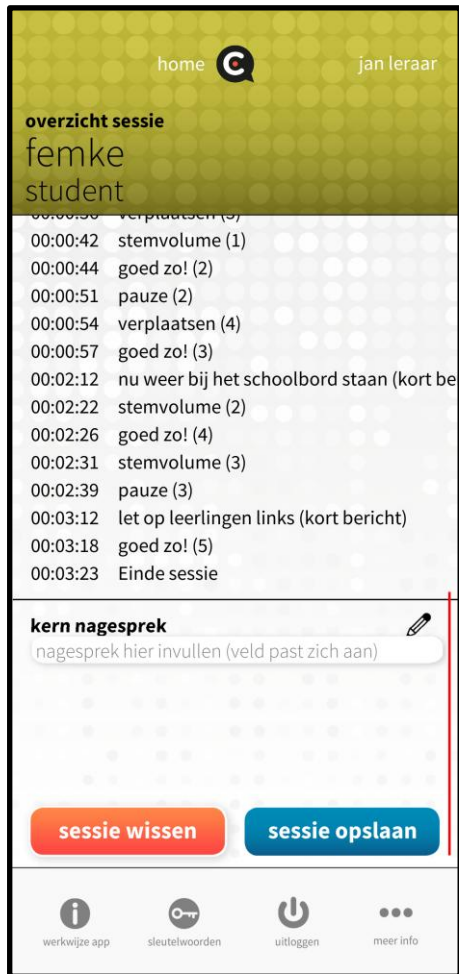


# EarCoach app (demonstration)





## EarCoach app (demonstration)





## EarCoach app (demonstration)

← terug

home

jan leraar

sessie mailen

femke student

een e-mail met een overzicht van de sessie wordt gestuurd naar:

jan.leraar@gmail.com

femke.student@gmail.com

nog een adres mogelijk

stuur

naar mijn leraren (in opleiding)

naar sessiespagina

werkwijze app

sleutelwoorden

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werkwijze app

sleutelwoorden

uitloggen

meer info

sessieoverzicht

Inbox x

info@earcoach.nl

aan mij ▾

Beste,

Bij deze ontvangt u het sessieoverzicht in de bijlage.  
Bedankt voor het gebruiken van onze App.

Met vriendelijke groet,  
EarCoach team



Eén bijlage

Gescand door Gmail ⓘ

Toevoegen aan Drive

PDF

sessieoverzicht.pdf

← Beantwoorden

→ Doorsturen

😊





# EarCoach app (demonstration)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>overzicht sessie</div> <div>sessie 02-06-2026</div> <div>coach: jan leraar</div> <div>leraar in opleiding: femke student</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <div>00:02:31 stemvolume (3)</div> <div>00:02:39 pauze (3)</div> <div>00:03:12 let op leerlingen links (kort bericht)</div> <div>00:03:18 goed zo! (5)</div> <div>00:03:23 Einde sessie</div> |
| <div>stage- / werkplek</div> <div>school Primair onderwijs</div> <div>vak science</div> <div>klas elementary school leerlingen rond de 7 jaar</div>                                                                                                                                                                                                                                                                                                                                                                                                                                     | <div>kern nagesprek</div> <div>Verliep prima. Volgende keer meer complimenten geven aan leerlingen</div>                                                                                      |
| <div>sleutelwoorden</div> <div>goed zo! compliment</div> <div>pauze wacht totdat de leerlingen stil zijn</div> <div>verplaatsen beweeg door de klas</div> <div>oogcontact maak oogcontact met de leerling</div> <div>stemvolume verhoog stemvolume voor leerlingen achter in de klas</div>                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| <div>leerdoelen uit voorgesprek</div> <div>klassenmanagement</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                               |
| <div>verloop sessie</div> <div>00:00:00 Start sessie</div> <div>00:00:09 oogcontact (1)</div> <div>00:00:13 verplaatsen (1)</div> <div>00:00:21 goed zo! (1)</div> <div>00:00:26 verplaatsen (2)</div> <div>00:00:33 pauze (1)</div> <div>00:00:36 verplaatsen (3)</div> <div>00:00:42 stemvolume (1)</div> <div>00:00:44 goed zo! (2)</div> <div>00:00:51 pauze (2)</div> <div>00:00:54 verplaatsen (4)</div> <div>00:00:57 goed zo! (3)</div> <div>00:02:12 nu weer bij het schoolbord staan (kort bericht)</div> <div>00:02:22 stemvolume (2)</div> <div>00:02:26 goed zo! (4)</div> |                                                                                                                                                                                               |



THANK  
YOU