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A modern & innovative space for educational research: the "Jacques Ginestié" experimental platform

Jonathan Mirault, Mathilde Favier, Nicolas Mascret

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A modern & innovative space for educational research: the "Jacques Ginestié" experimental platform

Jonathan MIRAULT, Mathilde FAVIER, & Nicolas MASCRET

Plan

1. Context

2. Furnishings

3. Methodologies

4. Future prospects

Opening – 01.16.2023



Michel FAYOL, Alice BOUTELOUP, Nicolas MASCRET, Aurelie BIANCARELLI-LOPES, Eric BERTON, Pascale BRANDT-POMARES, Fabienne BLAISE

1. Contexte

Ampiric Aix-Marseille

Structurer le pôle pour articuler recherche-formation-terrain

2

Recherche
SFERE-Provence

Terrain
Réseaux académiques

Formation
ESPE et académique

Tisser les liens entre recherche et terrain
Valoriser et disseminer les solutions efficaces

Adosser la formation initiale et continue des enseignants à la recherche

Améliorer les performances des élèves dans leurs apprentissages fondamentaux en structurant les interactions recherche, formation, terrain

Renforcer le continuum formation initiale, continue et continue

Développer et renforcer les interrelations entre :

- Les équipes de recherche
22 laboratoires engagés (dont 20 constituent SFERE-Provence)
- Les équipes pédagogiques des écoles et établissements scolaires
21 réseaux académiques dont 8 au cœur de l'expérimentation (214 000 élèves concernés)
- Les équipes de formation
90 enseignants INSPE, Formateurs de terrain, Licence, Master MEEF, Formations continue et continue
- Les équipes des entreprises partenaires
Coordination de l'ANRT
11 entreprises engagées
- Les équipes des associations et collectivités
L'ensemble des associations du CAPE
Soutien des collectivités territoriales

NSRF, CPER, AER, ANRT, AER, ANRT, ANRT



2. Furnishings

2.1. Main classroom



- 2 fixed white board
- 2 mobile white board
- 1 interactive video-projector
- Chairs and tables with different sizes for youngs and adults
- Camera & Microphones
- Indoor tracking

2. Furnishings

2.2. Control room



- Control of the camera
- Control of the microphones
- Data storage Server

2. Furnishings

2.3. Physiological room



- Eye-tracking (screen based)
- EEG (128 ch.)
- Facial emotion recognition (FaceReader)
- Computers « Big Data »

2. Furnishings

2.4. Virtual Reality room



- 2 headsets
- 1 headset VR + Eye-tracking
- Totally secured for users

2. Furnishings

2.5. Observation room



- 2 one-way windows
- 1 computer for VE creation
- 3D Printer

2. Furnishings

2.6. Reserve



- Tablets (iOS, Windows, Android)
- Wireless EEGs
- Wireless Eye-trackers
- Robots
- Cameras
- Microphones
- Smartwatch

3. Methodologies

3.1. Behaviour

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File Edit Annotation Tier Type Search View Options Window Help

Grid Text Subtitles Lexicon Comments Recognizers Metadata Controls

MA1

Nr	Annotation	Begin Time	End Time	Duration
6	oh .	00:00:08...	00:00:09...	00:00:00...
7	a square .	00:00:09...	00:00:10...	00:00:00...
8	oh .	00:00:13...	00:00:13...	00:00:00...
9	what's that ?	00:00:15...	00:00:15...	00:00:00...
10	the blue cross .	00:00:15...	00:00:16...	00:00:00...
11	and the +... [+ IN]	00:00:17...	00:00:17...	00:00:00...
12	oh dear .	00:00:17...	00:00:18...	00:00:00...
13	where's the basket gone ?	00:00:20...	00:00:21...	00:00:00...
14	where's it gone ?	00:00:22...	00:00:22...	00:00:00...

00:00:08.000 Selection: 00:00:08.074 - 00:00:08.359 285

031_18M_SY... :07.000 00:00:08.000 00:00:09.000 00:00:10.000 00:00:11.000 00:00:12.000 00:00:13.000 00:00:14.000 00:00:15.000 00:00:16.000 00:00:17.000

CHI [5] the

vcm@CHI [9] C

lex@CHI [5] W

mwu@C [3] 1

MA1 [37] oh . a square oh . wha the blue cross and th

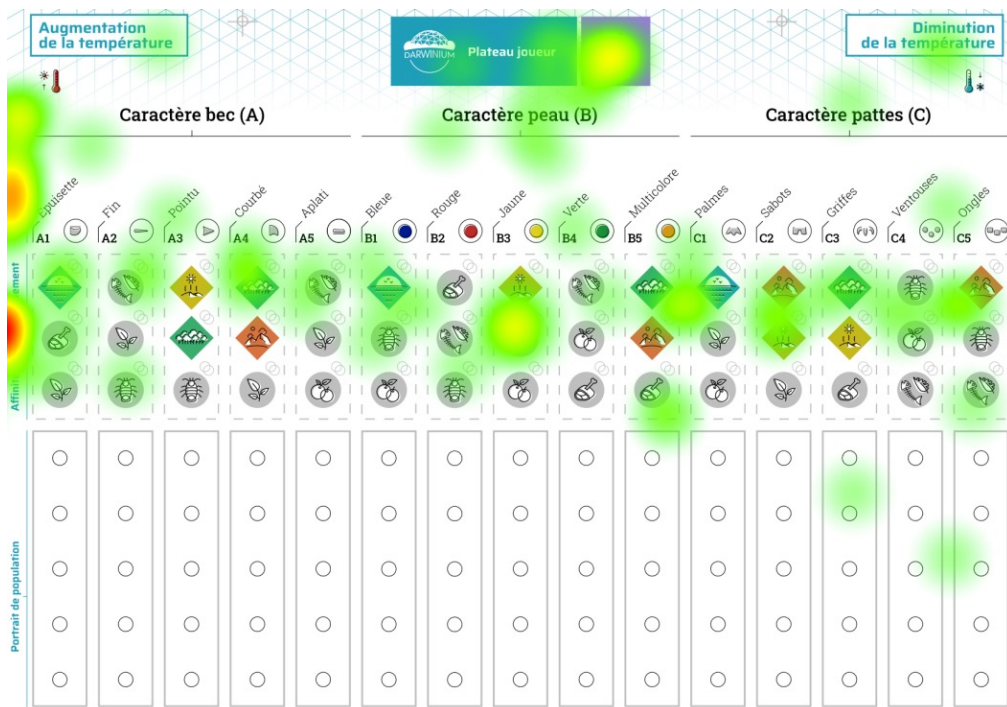
xds@MA1 <

➤ Qualitative & quantitative analysis with ELAN

➤ Transcription With Python algo. based on Whisper

3. Methodologies

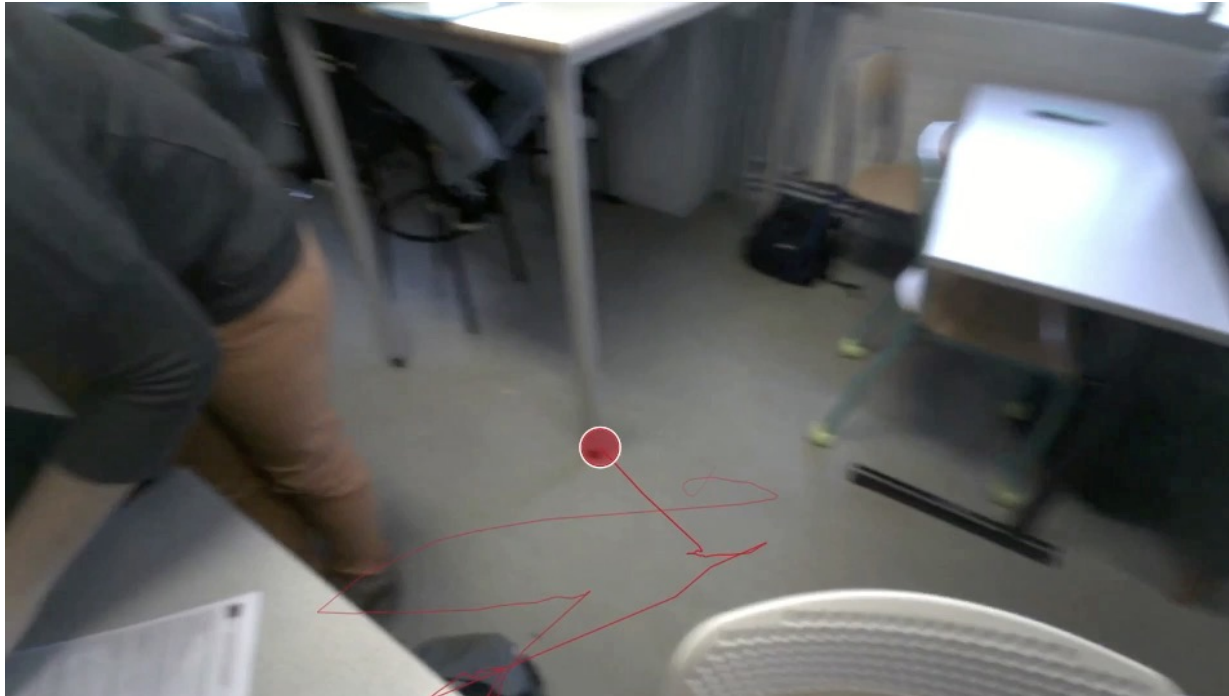
3.2. Eye-tracking (desktop)



➤ Pupil's gaze behavior during an exercise

3. Methodologies

3.2. Eye-tracking (mobile)



➤ Teacher's gaze behavior in class

3. Methodologies

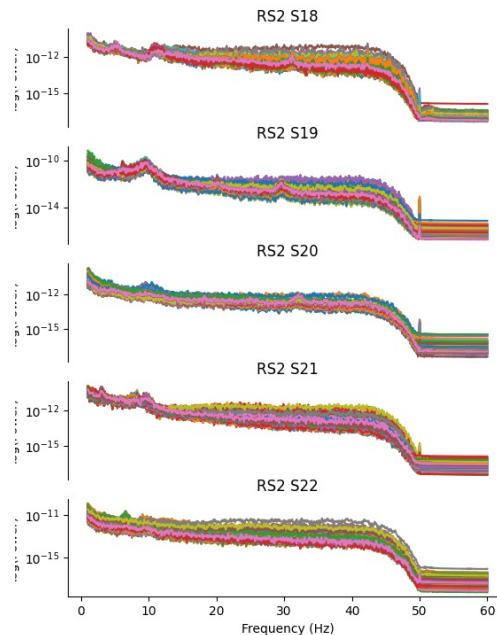
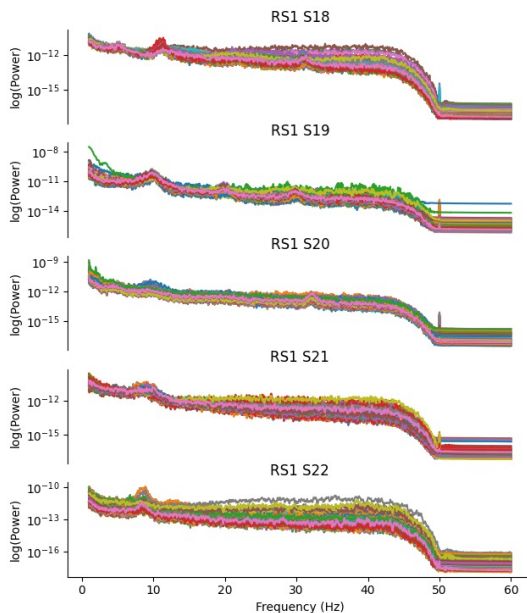
3.3. EEG



- Brain activity during task (resting state)

3. Methodologies

3.3. EEG



➤ Brain activity during task (resting state)

3. Methodologies

3.4. Virtual reality



- Presentation and interaction in virtual environment

3. Methodologies

3.5. Video (machine learning, gesture)



➤ Body detection
and gesture analysis

3. Methodologies

3.6. Audio (transcription, speech analysis)



➤ Text analysis

3. Methodologies

3.7. Robotics (educative bots)



➤ Bots as a tools
for teaching

3. Methodologies

3.8. Conception 3D (creation and print)

- Educational board game



Coupaud et al., (2023)

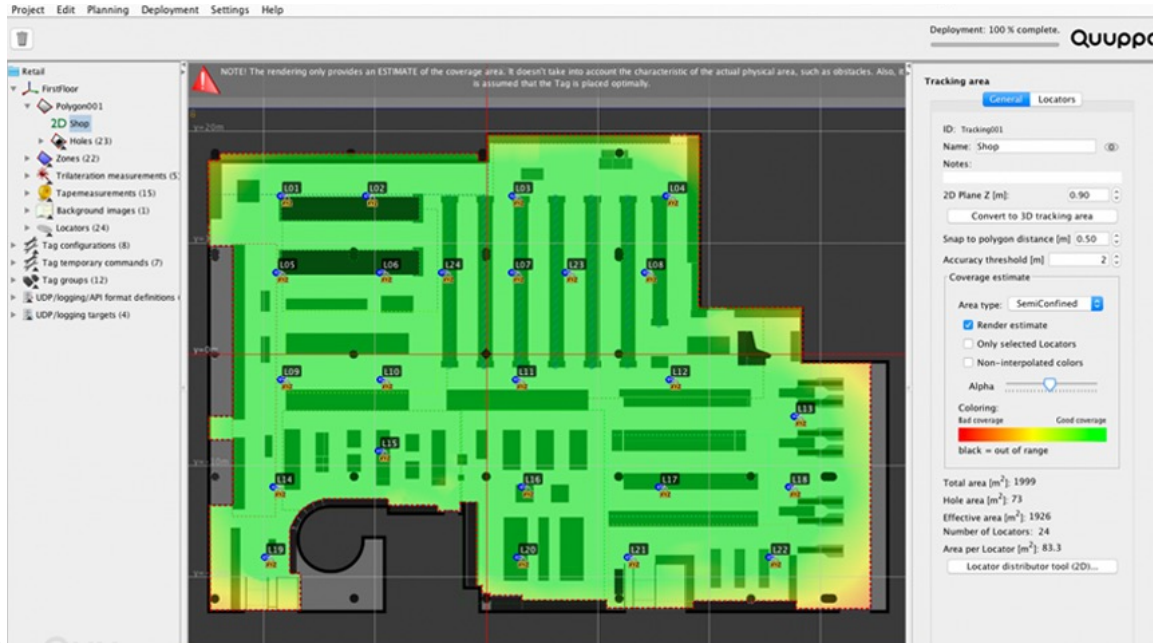
- study of room layouts
materialized with 3D objects



Diop et al., (2023)

3. Methodologies

3.9. Indoor tracking



➤ Body tracking in link with motivational and perceptive styles

4. Future prospects

A CHALLENGE FOR EDUCATIONAL RESEARCH



- * A unique space for experimental studies in a quasi-ecological context
- * Interdisciplinarity through the cross-fertilization of theoretical models
- * Multimethods (physiological, psychological, behavioral measurements, etc.)

A CHALLENGE FOR TEACHING, STUDENT LEARNING, AND TEACHER TRAINING



- * Understanding teaching and learning processes
- * Testing the effects of new teaching methods and devices
- * Linking pre-service and in-service teacher training to research

Thank you for your attention !



Scan me!

