MOBILE AUGMENTED REALITY LANGUAGE

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LANGUAGE
A system of signs used for communication, F. de Saussure
I don't understand a word young people say these days.

C U - I'll txt u LBR :(
LANGUAGES ACCOMMODATE

EDUCATION SHOULD CATCH UP WITH THIS CHANGE
Our students have changed radically. Today’s students are no longer the people our educational system was designed to teach. (Prensky 2001)
RADICAL CURRICULUM 4 LANGUAGE TEACHING

• Traditional language teaching is still based on curriculum and materials developed before millennium.

• Especially the books and other course materials fall short to engage students.

• It's a must for today's teachers to address the needs and the interests of the younger generation.

• In such an era where technology is with us everywhere we go, it should be as present as possible in a classroom setting.

• The research shows that the teaching aligned with commonly used technological advancements enables more effective and productive lessons and enjoyably engaged learning.
Importance of pedagogy: Several studies have shown that without a pedagogical structure associated with the deployment of the technology, the technology does not make any impact in the learning of the students (Santiago et al, 2010).

Through the technology is used as a tool for developing activities supported by a pedagogical model, there can be significant improvement in the student learning (Roschelle et al, 2009).

The developed apps should abide by existing pedagogical frameworks despite the shortness of literature in the field.
WHAT IS AR/MAR
HIDDEN INNOVATION FROM 50'S

- Augmented Reality (AR) is the technology which combines the real world with digital data.
- In a way there is a digital layer with new information placed on top of the experience.
- AR originates back to the cockpit head ups. Pilots have a informative digital input regarding the speed altitude pressure and etc. on top of their regular vision.
• Real Environment: The traditional teaching: classroom blackboard

• Augmented Reality: computers, smartphones, *ubiquitous learning*

• Virtual reality: 360 degrees, headset, head movement track

• Mixed reality: use of real world environment and virtual reality together
WHAT IS AR/MAR
USES SIMPLE TECHNOLOGY

• AR is used on desktops or laptops or mobile devices (phones, glasses, tablets) through their cameras:
  • Location systems: GPS
  • Compass: maps
  • Accelomter: pace
  • Magnetometer: gravity
  • Gyroscope: tilt - navigation
  • Camera or other optical censors
  • Internet - wireless connections (Bluetooth)
THE PLACE OF AR IN EDUCATION
EASY TO ACCESS

• The mobile technologies have been used since the early 2000s.

• From SMS/MMS to Virtual Reality apps have been used.

• This technology has had an explosive growth in the last years, made possible by the improvement in the capabilities of mobile devices, allowing the development of many activities and games using handheld devices (Wagner & Schmalstieg, 2003; Billinghurst et al, 2006) and mobile phones (Schmalstieg & Wagner, 2007; Henrysson et al, 2005).
WHAT IS AR/MAR
USES SIMPLE TECHNOLOGY

• The aforementioned functions exist in all recent smart phones

• All of which is operated through a software/mobile app developed for AR

• Mobile Augmented Reality: point your phone towards a building or a street and attached information will pop up on the screen
WHAT IS MOBILE AUGMENTED REALITY
WHERE IT IS USED

• Industry
• Mining
• Industrial operations: training for operators
• Architecture
  • Placing building plans on expected areas
• Archeology
• Design
• Home decoration
MEDIA

- Advertisement: similar to QR code
- Newspapers
- Shopping: product information and comparison to other stores
TURISM

- Maps
- Travel tips: restaurants, hotels etc
- Museums
- Gift cards
MAR IN EDUCATION

- Biology
- Plant info
- Geology
- Surface information
MAR IN EDUCATION

- Medicine
- Interactive 3D models
MAR IN EDUCATION

• Mathematics and geometry education.
• Construct3D: construction tool for
MAR IN EDUCATION

- Literature
- Interactive books
- Classroom materials
- Games created with specific trigger handouts
- Interactive 3D models
There have been several approaches to use augmented reality (AR) as an educational tool, which can be broadly categorized in three groups.

The first approach uses augmented reality as a replacement for virtual reality, creating interactive virtual objects in a virtual world that is only linked to reality through the point of reference given by the markers (Kaufmann & Schmalstieg, 2003).

A second group of activities uses AR to augment real objects in the real world, allowing students to interact with physical objects adding virtual data (Dillenbourg & Jermann, 2010).

Finally a third approach is a middle point between the previous two: in these types of activities, the objects are virtual, but they interact with properties of the real world, such as gravity (Oda & Feiner, 2010).
EXPERIENCES
IN CLASS USE

• Aurasma: phonetics and phonology
• **Plickers**: in class, real time assessment

Which word doesn't have the sound /ɜː/?

A: Bird  
B: Earth  
C: Real  
D: Circle
WHY TO USE MAR IN EDUCATION
AR/MAR GIVES INTERACTIVITY IN A CONTEXT

• According to several studies, immersion can improve learning by two mechanisms: allowing the learner to experience multiple perspectives and through situated learning. The multiple perspectives allow the learner to understand complex systems, by exploring different physical points of view, first person or third person, and different psychological points of view, by taking the role of different characters in the game (Salzman et al, 1999).

• Situated learning helps the player contextualize the experience in a concrete environment (Brandsford et al, 2000). It has been shown that using immersive activities students are more involved and learn the same or more than similar but non-immersive activities (Dede, 2009).

• Additionally, digital immersion allows the students to gain confidence in their academic skills by projecting their real identity into a virtual character.
Restricted theories exists related to AR context

- Digital Literacies - (Conole and Alevizo, 2010)
- MALL - Language learning defined by time and place (Kukulska-Hulme, 2006, 2009, 2011, 2012)
- Apps, technological developments and language learning (Godwin-Jones, 2011)
- Mobile learning, conceptualisation; evaluation (Traxler 2007)
- SMS, Vocabulary, Stockwell (2010)
- Learner Autonomy, Hurd (2005)
CHECKLIST FOR MAR IN FLT

1. Motivation: long lasting will :)
2. Creativity: how to combine **fun** and **must**
3. **Reality check:** Feasible applications
   1. Availability of connections, devices, institutions/organizations and people
4. **The aim and the focus:** information and skills included
5. **Level** and the **profile** of the students
   1. Social, economical, cultural backgrounds
   2. Individual differences or difficulties
6. Type of teaching and the **setting:** f2f or distant
7. **Content:** choice of relevant info and the digital format
   1. Audio-visual content for presentation
   2. Gamification for practicing the skill
8. **Curriculum:** presentation of the content
   1. Alignment with the requirements of the school/university/organization
9. **Assessment**:
   1. feedback for the app
   2. Feedback for inclusion of the app in teaching
   3. Self reflections of students
   4. Interviews: teachers and students
10. **Edit and relaunch!** X2
REFERENCES


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REFERENCES


THANK YOU

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