



HOW CAN MMOL PLATFORMS  
IMPROVE TEACHER SKILLS IN  
CULTURAL DIVERSITY, VALUES  
EDUCATION AND ATTENTION TO  
DIVERSITY

Carlos-Miguel Lorenzo, Miguel-Ángel Sicilia, Salvador Sánchez

*University of Alcalá*

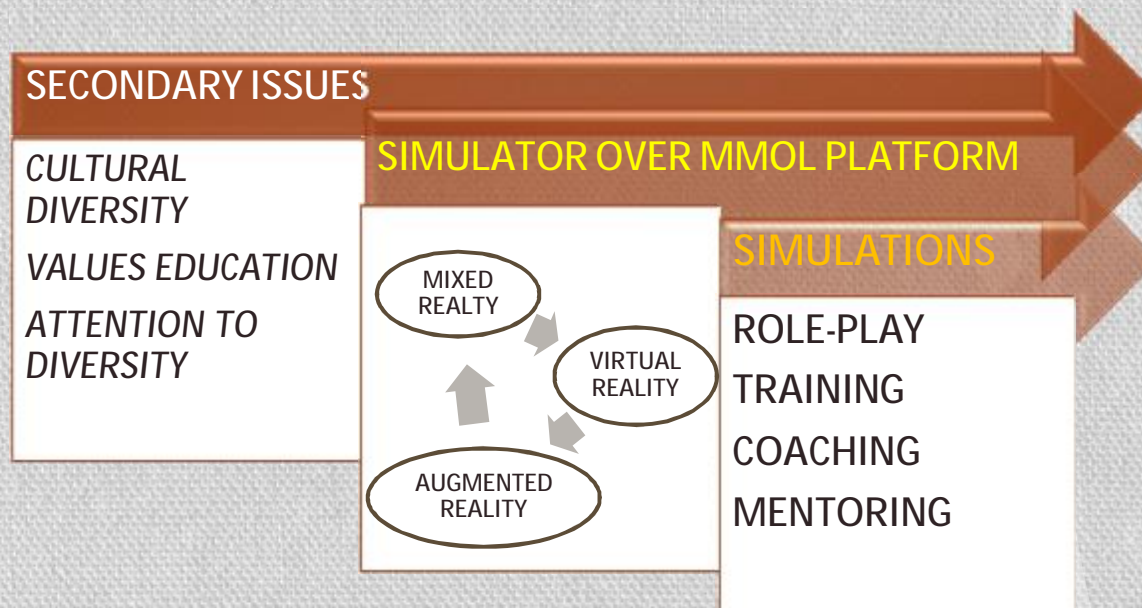
{cm.lorenzo, msicilia, salvador.sanchez}@uah.es

# STARTING POINT: SECONDARY EDUCATION. PROBLEMS? SOLUTIONS?



# HOW COULD MMOL PLATFORMS IMPROVE THE TEACHER'S SKILLS?

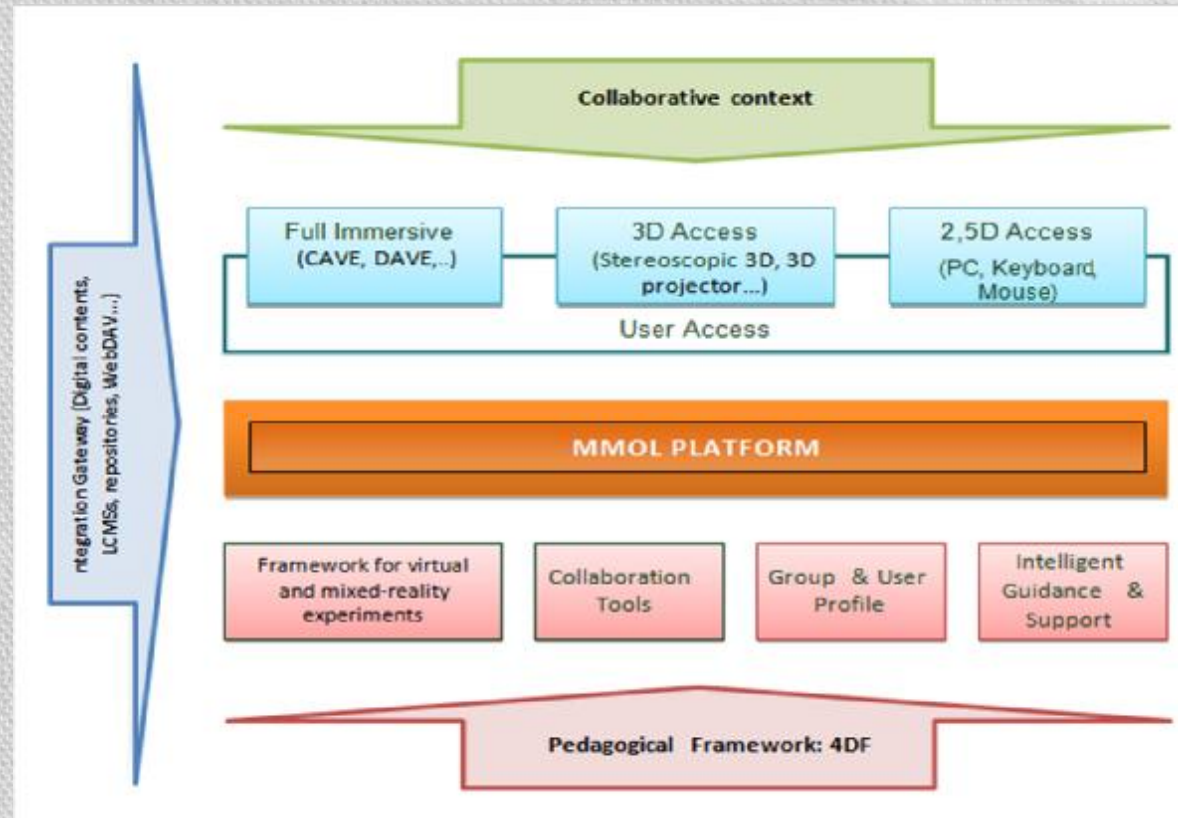
- Generating mixed, virtual or augmented reality simulators.
- Building spaces with problematic educational situations and problematic students.
- Improving abilities and skills by training teachers in problematic situations.
- Establishing channels for conflict resolution that allows the control and the creation of agreements in tune with the culture and the characteristics of each institution.



# HOW COULD MMOL PLATFORMS IMPROVE THE TEACHER'S SKILLS? DETAILED QUESTIONS:

- The teacher is an active entity, becoming the constructor of his learning.
- Allow the revision of experiences by specialists and experts that directly or indirectly could contribute to an improvement process.
- Enable the definition and implementation of educational patterns.
- Support experimental and conjectural learning.
- Provide an open learning environment based on real models.
- High level of interactivity.
- Help to teach certain skills and competencies.
- The teacher tries to understand the characteristics of the phenomena, how to control them or what to do under different circumstances.
- Promote entertaining situations that encourage informal learning.
- Storage results and experiences in order to be able to analyze and review guidelines for action.

# MMOL PLATFORM ARCHITECTURE.

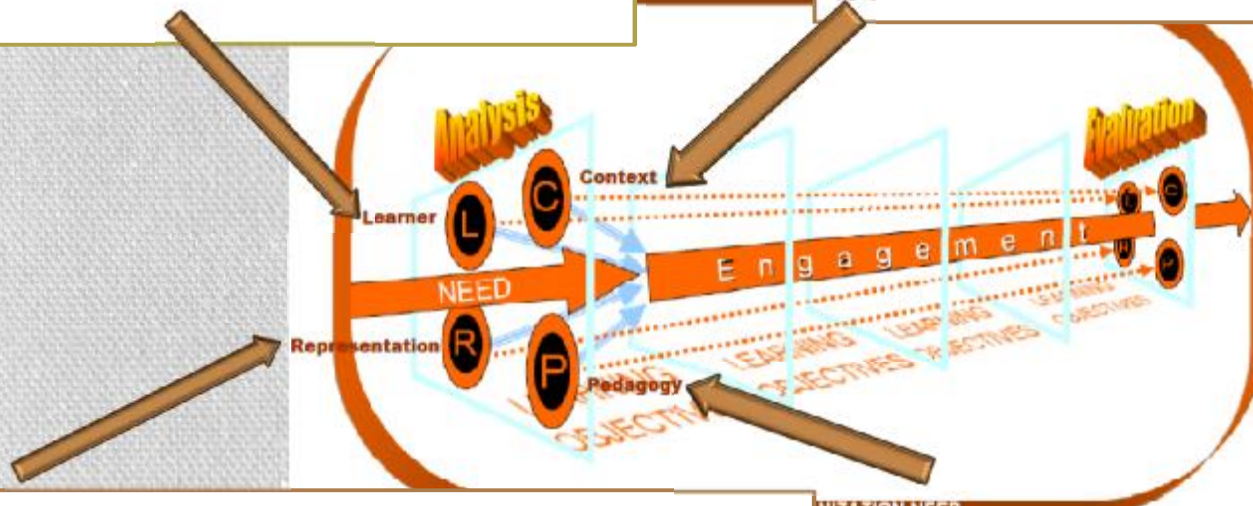


MMOL platforms are those mixed, virtual and/or augmented reality environments built on virtual world servers that provide interactive learning by means of 2D, 2.5D, 3D or fully immersive interfaces, appropriate for creating and managing on-line collaborative learning platforms in which individuals will participate in a real or figurative way (avatar).

# PEDAGOGICAL CONTEXT: 4DF

*Learner dimension*, which includes the definition of profiles, roles and competences. In our case, these are teachers that, through role-playing activities, simulate typical situations in some of the three target areas of study

*Context dimension*: description of the learning environment, ways to access to learning, available resources. In our case the learning environment is schools of Comunidad de Castilla-La Mancha. We designed spaces that reproduce in the platform the environments where such situations have been contextualized: playground, sport fields, classrooms, locker rooms and others.



*Representation dimension*: immersion degree provided by the platform when conducting the learning activities, fidelity and interactivity. Each teacher participating in the experience plays a role among those recognized from the real situation to analyze. They incorporate gestures, vocabulary, expressions, pseudonyms and references observed in persons who took part in these situations.

*Pedagogical dimension*: We adopted an approach based on problem solving, exploration through role-playing activities, situated or contextualized learning, and especially "connected" learning based on *connectivism* of G. Siemens.

# EXPERIENCES

Experience Title	An organized and violent group of South American students.
Date	11-May-2011
Responsible (Name and e-mail)	...
General description of one specific situation characteristic of multiculturalism (10-15 lines)	<p>A group of four Spanish students is playing at the recess on the school basketball court. Then a group of ten South American people arrives and they begin to push them violently to dislodge the basketball court, and they take them off the ball. One of the Spanish students tells them that the basketball court is for everyone. The South American group leader responds that they have to leave or they will regret and not to even think of going there again nor talking about that with any teacher.</p> <p>This situation has been the case since the beginning of the course. The students, who were playing, in view of the aggressiveness and the higher number of students, decide to leave and go talk to the director of studies.</p>
Describe the space/place (classroom, corridors, playground, street, ...) where the situation is located.	Basketball court.
List which objects, resources, tools... are present in the scene. Justify the reason for their presence.	...
List those persons involved, identifying the role of each of them. Justify the reason for his intervention.	...
Identify one feature which are characteristic of cultural diversity.	...
Describe one typical behavior of cultural diversity conflict.	...
Describe another behavior of cultural diversity conflict.	...
Describe one intervention necessary to conflict resolution.	...
Another intervention necessary to conflict resolution.	...
General comments on the situation described.	...

## CONCLUSIONS AND PROSPECTS

- The development of this first phase of the project has served to confirm the potential of the *MMOL platforms* to train teachers.
- *MMOL platforms* seem to be an effective way to develop low-cost training simulators that describe typical problematic situations of an educational context.
- The main challenges are:
  - ❑ *Friendly* and not complex tools to develop standardized 3D micro-objects for learning; known as Minimum Object of 3D Learning (MOL).
  - ❑ New standards to propitiate a “real” interoperability between virtual world servers
  - ❑ New standards which allow the definition, classification, valuation, packaging and reusing of MOLs, ergo Reusable MOL (RMOL).



**THANKS !!**  
**Carlos-Miguel Lorenzo**  
**[cm.lorenzo@uah.es](mailto:cm.lorenzo@uah.es)**