Erasmus+
2020-1-UK01-KA201-079177

Classification of Student Actions in 3D Virtual Worlds

QUESTLINE OVERVIEW

Classification of Player Types

Quest	Task
Exploration	Study
Socialisation	Study
Collaboration / Cooperation	Study
Competition	Study
Role-Play	Study
Creation	Study
Level	4
Challenge	Identify a gamified task that your students can perform within a 3D Virtual Learning Environment and describe a relevant activity.
Boss Fight	Quiz-Based Game
Experience Points	300
Achievement	Keepin' Busy

QUESTLINE DESCRIPTION

Highlights

- ✔ Researchers that have explored the so-called ‘educational affordances’ of 3D Virtual Worlds classify the educational potential of these environments from different perspectives and points of view.
- ✔ While considering the key findings of these works, it becomes apparent that there are many ways to utilise these multidimensional environments in the classroom.
- ✔ Although there is a common agreement that one approach does not fit all, some activity types have been found to be highly beneficial for most learners.
- ✔ Therefore, the educational approaches elaborated in this section involve a blend of both passive (teacher-centered) and active (student-centered) learning techniques which can be utilised for the didactic of various subjects across different levels.

EXPLORATION

Informational

- ✔ “Learning must be an exploration where it is better to discover than to be told”.
- ✔ Exploration-Based Learning is one of the most frequently used educational strategies in 3D Virtual Worlds.
- ✔ The knowledge is acquired passively, through observation of the available 3D content, and constructed actively, through interaction with the visual representations.
- ✔ As a didactic approach it is most beneficial in the first phase of the learning cycle where learners develop their theoretical understanding on the fundamental concepts under investigation.
- ✔ This technique can be integrated via scenario-based virtual field trips, guided storytelling, or even free roaming.

SOCIALISATION

Informational

- ✔ “Student socialisation is a central element of technology-enabled learning”.
- ✔ The presence of avatars and the multichannel communication tools—that 3D Virtual Worlds inherently offer to promote social networking and community development—facilitate information exchange and ultimately foster peer-to-peer knowledge discovery.
- ✔ In addition, the high representational fidelity of graphics and the dynamic nature of these 3D interactive environments can potentially lead to the development of the so-called sense of presence and space which, in turn, make social learning a more realistic and inclusive experience.
- ✔ Indicative examples of educational practices of this nature include participation in virtual meetings, social events, conferences and are framed under the ‘Community of Inquiry’ concept.

COLLABORATION / COOPERATION

Informational

- ✔ “Collaborative Learning, sometimes also referred to as cooperative learning, may be defined as a student-centered approach in which groups of individuals work jointly on a well-defined learning task”.
- ✔ Collaborative activities in 3D Virtual Worlds promote critical discourse and increase the incentives for cognitive engagement with the academic content.
- ✔ Typical examples of such activities include joint knowledge production, information exchange, constructive negotiation and argumentation, and participation in procedural tasks.
- ✔ However, given that these environments are mirroring the real-world space, it is important that educators emphasise on the added-value of peer-learning and the necessity for learners to provide mutual support on the performance of the given interdependent tasks.

COMPETITION

Informational

- ✔ “Competition is a key element in many educational games frequently adopted by educators to motivate their students, with reported results related to increased academic performance”.
- ✔ In competitive educational environments learners are faced with scenarios that present a series of academically meaningful challenges which are usually conducted under strict timeframes and may involve collaboration with others.
- ✔ Competitiveness in 3D Virtual Worlds can be realised by instilling learners’ intrinsic motivation via activities with increasingly demanding tasks that encourage challenge and curiosity and extrinsic motivation via virtual rewards and leaderboards.
- ✔ Notwithstanding the foregoing, competitive behaviour in the classroom has received intense criticism and therefore, the integration of such activities in 3D Virtual Worlds should be driven by pedagogical goals and not purely competitive pressures.

ROLE-PLAY

Informational

- ✔ “Role-play is a form of experiential learning where students adopt different personas and work through a given scenario together, interacting in their assumed roles”.
- ✔ Role-play can take different forms (e.g., game-based, simulation-based, problem-based) in accordance with the primary learning objectives (e.g., learning of concepts/rules, information-recall, problem-solving) set forward by the instructional designer/educator in charge.
- ✔ Role-play in 3D Virtual Worlds can be designed under the following conditions:
  - (a) scripted-mode, where the steps of the scenario are predefined and the user(s) only control its progress or
  - (b) free-mode, where there are no predefined steps and the user(s) are responsible for shaping the narrative of the scenario.
- ✔ In either case, the role of the educators is vital both during and especially after the completion of the session where the students debrief and reflect on the experience.

CREATION

Informational

- ✔ “Maker culture draws upon a more participatory approach than traditional learning, encouraging learners to collaboratively engage with others as they learn through the creation of new items”.
- ✔ The so-called ‘maker era’ represents a diverse group of individuals who are interested in creative arts and crafts (e.g., 3D printing, modification of equipment, one-of-a-kind designs).
- ✔ In construction-oriented 3D Virtual Worlds learners are provided with vacant land and the freedom to create/programme anything they would like, using the native modeling tools and the respective scripting language.
- ✔ As an educational approach it has been found to be more appropriate in activities and tasks that involve design and animation of 3D prototypes as well as for the creation of digital posters or concept maps.