

Reward Models for Active Language Learning in 3D Virtual Worlds



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Motivation

- A main distinction for reward models is made between
 - **intrinsic** (internal- “I do this because I want to”) and
 - **extrinsic** (external – “ I do this because someone wants me to do it”) motivation [7].
- Another distinction is that between instrumental and integrative motivation [6].
 - **Instrumental** motivation involves the learning of a language for specific goals/rewards, for example getting a good grade, being able to apply for a certain job, qualifying you for a particular university program etc.
 - **Integrative** motivation, on the other hand, the motivation lies in gaining access to a community or a culture through a language.

What is relevant reward?

One dilemma in language education is actually providing relevant rewards.

- Language is the **key to communication** and access to a new culture. Without language we are isolated.
- The reward models operating in the classroom, rarely confront students with **authentic communicative scenarios**.
- They might get x out of ten in a vocabulary test, and of course this can be reward/punishment in itself, but in real life knowing or not knowing the word for ‘water’ might mean the difference between going thirsty or not. We must account for the **cultural dimension** in language learning models.



Mobile applications for language learning: can be helpful for those who did not have time to learn before the trip!

I would like..



(Screenshots from Odyssey Translator)

But they are not a substitute for learning in a social-cultural context.

What are virtual worlds and why use them for language learning?

What are virtual worlds?

- Virtual worlds are 3D **multi-user** online computer simulated environments.
- A user can be represented as an avatar, moving around and **sharing** world content with other avatars.
- Second Life™ is one example of a virtual world where users can **experience** communication, networking and shared activities, some that are not possible in the real world, such as flying (without an aircraft).

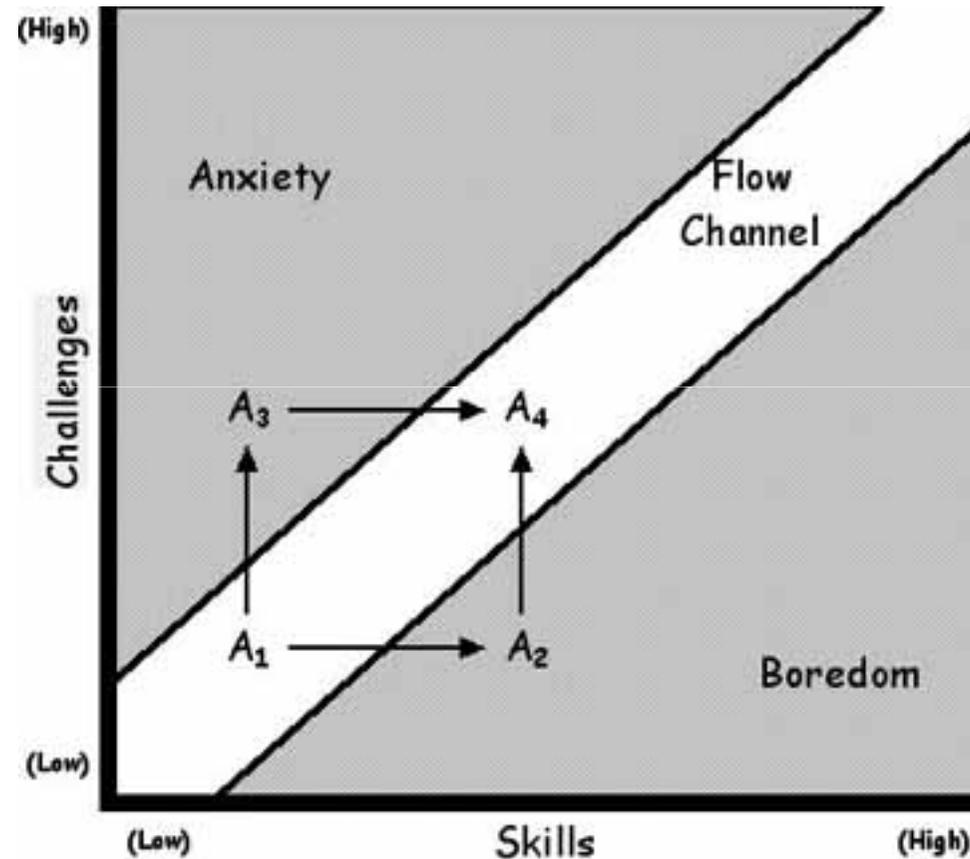
Why use them for language learning?

- In virtual worlds, re-conceptualization of self is possible (**self-determination**).
- Tasks can be designed in such a way that they **realistically simulate real life** communicative scenarios in the target language.
- Completion of a communicative task is a reward in itself. **Being understood** and authentic communicative exchanges are thus **highly rewarding** (thus motivating.)

Four Components of a successful computer game

- **Meaningful challenge** - has **attainable** goals within the game structure and the perception of the players. The goals have value, and conflicts are components that make the goal a challenge.
- **Self-consistent setting** - is a co-constructed alternative reality that is made by the game structure (rules, stories or thematic representations, visual aids) and the imagination of the participants [14]. The **thematic representations** are built on narrative genres that are often **based on general cultural knowledge**.
- **Player presence** - is the emotional investment of the participant in the game and this creates a sense of **immersion**. As pointed out by [13, p.86], “the game token is no longer a piece of plastic, the game **token becomes “you”**”.
- **Embedded helps** - are information or feedback seen as part of the self-consistent setting; in other words, it may be **part of the narrative**.

Csikszentmihalyi – flow theory explains how persons are motivated to learn in games



From *Flow: The Psychology of Optimal Experience*
by Mihaly Csikszentmihalyi (page 74)

Four types of rewards for computer role-playing games

- **rewards of glory** (have no impact on the game but give the player satisfaction and pleasure)
- **sustenance** (allow accumulation of inventory, such as magic swords)
- **access** (rights of access to new portions of the game)
- **facility** (new abilities)

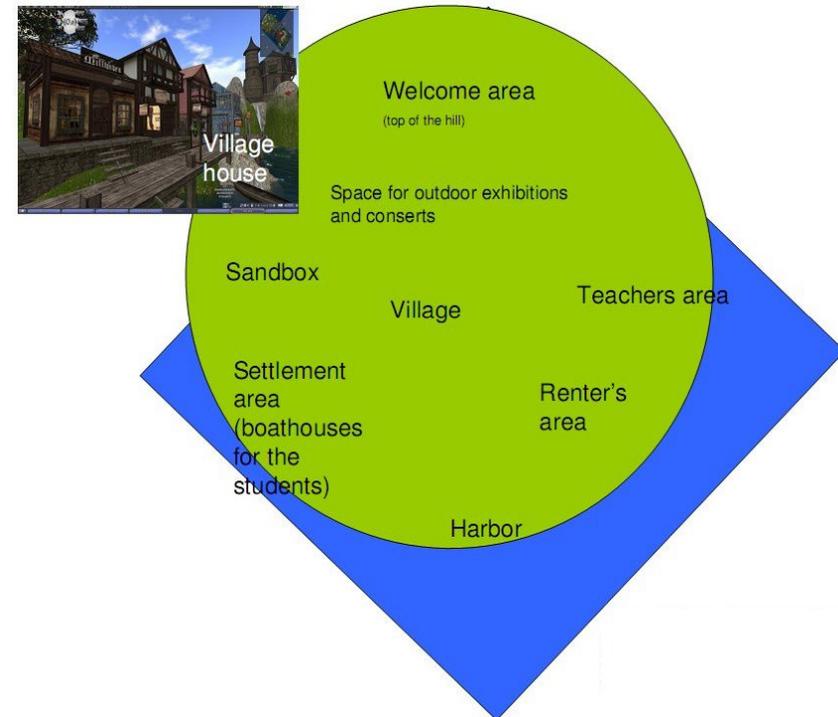
Business English Course offered in Second Life™

Main objectives were to provide learners with:

- (1) business language practice and language knowledge appropriate for their learning level
 - (2) the necessary technical knowledge of SL to make this language learning experience effective and meaningful
 - (3) create a viable model of how SL can be used for teaching a business language course and an awareness of SL potential for online language education in general within the language education community
 - (4) show the benefit of using SL for teaching a business language course as opposed to other platforms for online language learning
- Course was designed with intermediate business language learners. students who need to develop their language knowledge and skills for business.
 - The course was divided into 6 lessons or meetings in which the course instructor and course participants come together at the same time and place in SL. 4 groups of 3-4 students participated.

General layout of the virtual sim AVALON Learning

- The meeting place for the Business English course is in a structure called the “business barn” (BB), located between the village and the harbor areas on AVALON.
- The BB contains “office space” for posting information and for holding meetings. It also has a meeting location with chairs for an audience and a media screen for presentation of materials.
- The BB can be used for activities such as “dragon’s den” where students can present business ideas before a panel of judges.
- The students that are successful in the “dragon’s den” activity will be given building rights on AVALON in a campus area. This will give them further opportunity to enhance their language skills through the development of everyday objects.



Facilities for learning on Avalon



DESIGN OF A REWARD MODEL

Outcome of discussion among educators

- Possible tangible rewards: (1) free space on Avalon-island, (2) free language lessons, (3) Linden dollars, and (4) Gold “avaloneuros” (an own currency that can be spent in 'the village', e.g. the pub or the store).
- Possible intangible rewards: (1) monument of honor in a 'hall of fame' or the village plaza or in front of the teaching location called the “business barn” and (2) upgrade in status/more permissions on Avalon-island.

Outcome of Interview with Students

- wins all the money that was collected during the Final Presentation (dragon's den)
- wins free support or consultancy by <whom?>
- may stay in student quarter for another 6 months
- may advertise products in the village (free signpost)
- may set up a donation-box in the village
- entered into the 'role of honor' in the business barn
- may speak at an Avalon conference and advertise product/service
- wins a 'Stammtisch' (reserved table) in the pub

Specific Goals and Rewards calling on instrumental motivations

Teacher's conclude to give the following rewards:

- successful completion of the course awarded title 'avalon entrepreneur' (new title, without extra rights)
- winner of business plan competition awarded 10 "avaloneuros"
- social award - a red Avalon-shirt
- technical award - a blue Avalon-shirt
- language progress award (judged through self assessment and teacher assessment) - The students received a personalized certification that states achieved improvements.



A reward model should support both intrinsic and integrative motivations

Examples

- Glory - having one's name added to a resource pool (to assist future new students).
- Sustenance – payment of Linden dollars or gifts of inventory for each activity, or level achieved.
- Access- invitations to seminars where the number of avatars are limited by virtual world resources; the creation of secret rooms that can be accessed only when a certain role is achieved.
- Facility - assignments to roles in a SL group with more abilities associated with increasing roles such as rights to create objects on parcels.



In conclusion
reward models should
simulate the real-life
nature of language
learning where the
ultimate reward of
learning a language is
the access to and full
participation in its
community.

Thank You
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