

Taking into account current research in virtual worlds and research on Gagné’s Nine Events, and observations, the following recommendations should be considered when designing learning events for delivery in 3DVWs

Gagné’s Events and ISD Recommendations

Gagné’s Events	Recommendations for use when designing in 3DVWs
<p>1. Gain Attention</p>	<ul style="list-style-type: none"> • Keep lecture to a minimum. • Use a story or a challenge to gain participant’s attention early in the event. • When possible, make the learner part of the story, not just a spectator. • Match attention-getting stimulus to environment. (e.g., billboards on beach boardwalk) • Make VW and participant interaction meaningful. (e.g., real-world problem solving) • Combine instructional strategies to reach different learning styles. • Offer orientation and rules of conduct. (e.g., how to handle backchat prior to lecture)
<p>2. Inform Learners of the Objective</p>	<ul style="list-style-type: none"> • Distribute read-ahead material for more complex games and scenarios. • Post rules in accessible location if complex games or point systems are used. • Reiterate learning objectives or goals to participants as objective changes. • Communicate goals to participants consistently. • Ensure visuals suit immersive design structure. (e.g. avoid detailed text on notecards) • Tailor learning objectives to target audiences. (e.g. unique learning paths for each)
<p>3. Stimulate Recall of Prior Learning</p>	<ul style="list-style-type: none"> • Prescribe learning paths based on prior knowledge. (e.g. special path for novice) • Work knowledge of audience from subject matter experts into site design. • Evaluate learners’ skill level prior to bringing them into the 3DVW.
<p>4. Present the Stimulus</p>	<ul style="list-style-type: none"> • Customize the right avatar for the right learning (e.g., shape avatars as clots in heart) • Weigh features of VWs vs. training objectives. (e.g., avatar customization) • Incorporate machinima or simulation videos as communication strategies. • Draw from VW options to deepen immersion. (e.g. environment, outfits, assets) • Consider a non-linear, learner-directed approach to learning. • Extend 3D environment by combining 2D and 3D elements. (e.g. wiki)
<p>5. Provide Learning Guidance</p>	<ul style="list-style-type: none"> • Consider assessments that will guide the participants in what they need or want to learn. • Use storytelling to convey the challenge of what participants need to accomplish • Leverage subject matter experts to enlighten or inform participants on relevant topics. • Ensure the physical features of the environment (signage, paths, directions, and instructions) will guide the participants smoothly through the learning experience. • Frequent usability testing, with a range of audiences, is highly recommended to

	<p>ensure that the learner’s experience is actually that which was intended.</p> <ul style="list-style-type: none"> • Design with the target audience in mind. For example, given the anxiety triggered in those with PTSD, the orientation area is deliberately fashioned to be a relaxing environment using the metaphor of a state park. • Make sure to sufficiently analyze and address technological barriers before deploying; new users need to understand basic navigation and communication within the environment and can easily derail a training session without advance support.
6. Elicit Performance	<ul style="list-style-type: none"> • Carefully select and test the storylines and scenarios used to elicit performance. • Design events and activities to immerse the learners and convey the meaning behind what you want them to learn. • Encourage backchat as a valuable form of crowdsourcing. • Offer incentives to encourage learners to show mastery of training materials. • Ignite crowdsourcing techniques by encouraging co-collaboration.
7. Provide Feedback	<ul style="list-style-type: none"> • Consider using gaming elements and guidelines in the design. • Include HUDs and real-time data for feedback in discovery-based learning. • Program instrumentation feedback or interactivity of objects in the environment.
8. Assess Performance	<ul style="list-style-type: none"> • Simulate real-world situations to evaluate learning. • Use gaming techniques or point systems to reinforce correct skills and behaviors . • Use multi-collision sensors to track avatar identity and time spent in build. • Consider role plays to assess knowledge. • Monitor backchat for questions or clarification needed.
9. Enhance Retention and Transfer	<ul style="list-style-type: none"> • Build with the end in mind.(e.g. check if stories/scenarios scaffold to desired tasks) • Set up reasons to return to the build (e.g., weekly themes or follow-up events). • Offer takeaways to use when applying new skills to the job. • Provide follow-up activities or coaching to ensure that new skills are applied properly.