



# GUIDELINES FOR USING **VR** IN THE CLASSROOM

## **PREPARING THE 3D CLASSROOM**

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The 3D VR experience in U.S. schools is emerging as an engaging and effective learning tool for the classroom. Still, some students are simply not able to view 3D (perhaps 5-20% of the general population; thus, encouraging parents/students to seek eye examinations will prove helpful in this regard). Eye strain/fatigue (asthenopia) and visually induced motion sickness (VIMS) will affect some students. Still, some discomforts can be reduced or eliminated by ensuring that in your 3D VR classroom, you:

- use only high-quality, slow-moving 3D VR content
- warn students to avoid rapid body and head movements
- provide 'spotters' for students so they don't collide with furniture or others
- offer comfortably fitting 3D VR headgear (neither too loose, nor too tight)
- employ the effective teaching strategies (identified below)

## **SUPPORTING THE TEACHER: TIPS FOR TEACHING WITH 3D VR**

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- Always **preview** 3D VR lessons
- Set **expectations** for your students about appropriate 3D VR classroom behaviors (e.g., slow movement, adequate space, communicate to the teacher if feeling uncomfortable)
- Identify any potential student eye/health issues in advance with a small **test run**
- Use 3D VR in shorter segments, rather than for an entire class period
- As you teach, check with students to ensure they are having a comfortable experience
- Experience shows that if one student makes a comment about being sick or feeling dizzy, others will chime in. Try to **distinguish** actual issues from "copy cat" issues.
- Disinfect your 3D VR headgear frequently before/after viewings, e.g., antibacterial swipe, handwashing (before), UV cabinet

## **ENSURING STUDENT COMFORT WITH THE 3D VR EXPERIENCE**

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- Ensure students have glasses **off** until the simulation is ready to view
- Students may need to wear their corrective glasses **under** their 3D VR headgear depending on the perceived content viewing distance
- If a student is uncomfortable with 3D VR, have them view the content in 2D—without the headgear—holding the device **farther away**, since distance reduces visual effect

- ❑ If a student is feeling nauseous, immediately have her **close** her eyes for ten seconds or **look** at a distant object (This relaxes the extra-ocular and ciliary muscles in the eye)
- ❑ If getting up to move, students should always **remove** VR headgear before standing up to eliminate any possibility of vertigo
- ❑ Students with problems who really want to see 3D VR should consult with a certified optometrist/vision therapist. (In most case, comfortable 3D VR viewing can be acquired with focused practice under the care of a professional.)

## **DUE DILIGENCE GUIDELINES**

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- ❑ Follow your district guidelines for students with physical challenges related to sight and viewing
- ❑ Encourage parents/students to arrange eye examinations with their optometrist or vision therapist if they have ever experienced problems while viewing 3D VR
- ❑ Have parents sign a permission form for viewing 3D VR (and keep it on file)

There is some evidence to suggest that the effects of maintaining artificial stereopsis, such as when viewing a 3D film in the cinema or participating in a 3D classroom, take a little while to 'wear off'. It is advisable, therefore, for educators to plan for a period of five to ten minutes at the end of each 3D class, in a comfortable visual environment, during which the students can readjust to normality.

Note: declarations of the experience of nausea are 'psychologically contagious' (like yawning) within groups of people, and thus need to be managed. Mirroring can become unnecessarily disruptive.