**Integrating 3D Interactive Learning Activities into Your Curriculum**

**Some Tips and Suggestions**

3D interactive learning activities (3D-ILAs) are designed to support student learning. However, what students do with the 3D-ILAs is as important as the objects themselves. 3D-ILAs may be used in many different types of activities, but we believe they are most effective when integrated into the curriculum to encourage students to construct their own understanding.

We suggest:

1. **Connect the 3D-ILAs to curriculum content**

Try to think outside the box. Use the 3D-ILAs to encourage class discussion about the challenges students encountered in using the new technology—comparing learning in 3D to videos or 2D images.

1. **Define specific learning goals**
Make sure that the 3D-ILA aligns with the goals of your lesson. The learning goals need to be specific and measurable.
2. **Play around with the 3D interactive learning objects**

This will help you understand both the content and skills needed to manipulate the object.

1. **Provide directions for your students**

Some 3D-ILAs are complex and can seem overwhelming. Make sure that you guide student’s use of the technology. However, recipe-type directions can suppress their active thinking.

1. **Connect and build on students’ prior knowledge and understanding**
Ask questions to elicit their ideas. Guide students’ use of the 3D-ILAs to test their ideas and confirm their ideas or confront any misconceptions. Provide ways for them to resolve their understanding.
2. **Connect to and make sense of real-world experiences**
Students will learn more if they can see that the knowledge is relevant to their everyday life. The 3D-ILAs use images from everyday life, but the lesson should explicitly help them relate to their lives. As you write the questions and examples, consider their interests, age, gender, and ethnicity.
3. **Design collaborative activities**
The 3D-ILAs provide a common language for students to construct their understanding together. More learning happens when they communicate their ideas and reasoning to each other.
4. **Require reasoning/sense-making in words and diagrams**
The3D-ILAs s are designed to help students develop and test their understanding and reasoning about things. Lessons are most effective when students are asked to explain their reasoning in a variety of ways.
5. **Help students monitor their understanding**
Provide opportunities for students to check their own understanding. One way is to ask them to predict something based on their new knowledge and then check the prediction with the 3D-ILAs.
6. **Encourage students to use sense-making and reasoning**
Use of the 3D-ILA should be geared towards encouraging the student to operate in active learning mode not passive receiving mode. What can they discover about the content? What connections do they find? How does it make sense? How do they explain what they discover?

**Get Ready to Integrate**

Depending on the grade level and maturity level of each class, activities can be facilitated as independent work, collaborative group work, or whole class instruction.

They can be used to introduce a topic or provide remediation and rehearsal. You can even have students complete the learning activity as a homework assignment.

Many, such as the ID and Labeling activities, contain built in evaluation options. Have students print out the statistics window at the end of the Labeling activity for a homework grade or to document completion.

For timed activities, have students work individually or in pairs to try to beat the clock or beat another student's score.

Work with a partner to plan new curriculum units or lessons. It's much more fun that way, and you and your partner can brainstorm ideas, share the planning, and contribute your individual strengths.

**Classroom Management Decisions**

Think about how the i3D learning activity will impact your classroom schedule.

It is always a good idea to download any interactive material before you try to use it in your course. Depending on your connection speed, many downloads can be lengthy because of graphics.

As you play with the 3D-ILA, rehearse how you will introduce it. Decide how you will set up the class to interact with the activity. Do you need to use the computer lab or can you display the i3D-LA in your own classroom? How will students access the 3D-ILA in an online course?

Plan your lessons to provide instructions and guidance on how to access/use the 3D-ILA based on your students’ grade level and maturity. Remember, today’s students are often more accustomed to using technology in their everyday lives than we are.

Time your interaction to judge how long it could take students to complete an activity utilizing the activity. Remember, individual students will move at varying speeds.

For online courses that utilize Blackboard or Moodle, you can insert the 3D-ILA directly into your course management system. Remember to provide directions for students on how to download the file and what you want them to do with it.