

***The ROMI (Return on Marketing Investment) of
"3D Animation & Environments"
For
Life Science Education & Cognitive Learning***

Presented by

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3D Life Science Animation & Visual Effects

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Abstract

Modern day results indicate that multimedia applications with 3D animation & environments do in fact increase interest, learning and subsequent message retention for the viewing audience; ultimately resulting in an increased ROMI for those who utilize and "repurpose" this powerful, visual medium.

A technology conducted survey proved that attendee experience was improved by 53% when 3D imagery & animation were utilized; and a 66% increase in message retention was achieved.

The findings also suggest that the most obvious and essential benefit of 3D animation & environments, is that this medium leaves total control of the learning process to the viewer – thus decreasing the cognitive load.

Some might claim that 3D animation & environments are becoming the norm for facilitating learning of complex conceptual relationships. On the surface it would appear that 3D animation & environments within life science provides rich learner engagement; together with the ability to explore, construct and manipulate virtual objects, structures and metaphorical representations of ideas & complex content.

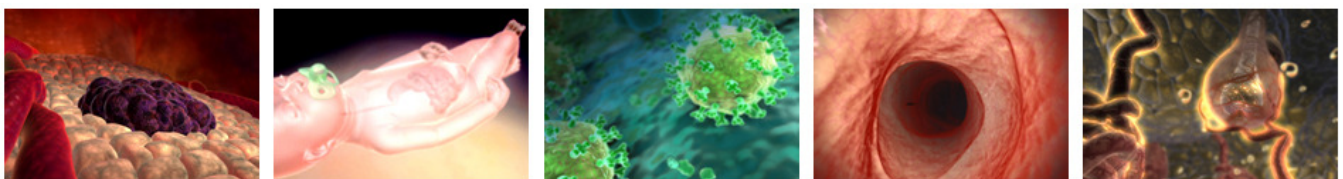
Results showed that 77% of participating audiences in immersive experiences requested a DVD copy of the content after viewing the presentation.

3D animated presentations are produced in a variety of formats which augment multiple life science education & cognitive learning initiatives; depending upon your individual business goals, marketing messages and expected results. 3D animation gives you access to levels of abstraction that you just can't get to with 2D alone.

The virtues of utilizing 3D animation in the learning environment, gives way to fully understanding complex structures and functional relationships - which are increasingly important to grasp the magnitude of modern day life science education and learning.

3D Animation & Learning Environments Strategic Objectives

- "Animate to Educate" to increase audience cognitive learning & message retention
- Enhance and improve our client's competitive position in the market
- Improve communication with our client's customers and reinforce the value they gain by working with them
- Increase the influx of new business opportunities and customers for our clients
- Optimize value through "Repurposing of Assets" for our clients
- Achieve ROMI (Return on Marketing Investment) for our clients



Defining 3D Animation & Learning Environments

The definition used by Wann and Mon-Williams (1966) clearly describes the main aspects of a 3D learning environment, stating that such an environment “capitalizes upon natural aspects of human perception by extending visual information in three spatial dimensions, and may supplement this information with other stimuli and temporal changes;” and that “a virtual environment enables the user to interact with the displayed data.”

The most important features that distinguish 3D learning environments are three-dimensionality, smooth temporal changes, and interactivity. Recent advances in the capabilities of standardized computing, allow for richly detailed 3D animation & environments to be delivered at realistic frame rates. This seems to produce and accelerate very high learning response rates, resulting in an increased ROMI within use across multiple media platforms.

Research shows there is also significant potential for collaborative learning through multi-user and immersive environments, visually displaying 3D life science content. Robertson, Card and MacKinlay (1993) argue that desktop 3D animation & environments [and subsequently web & mobile devices] can be easier to use than immersive environments, because people are already, and most familiar with, controlling their computers; and such environments do not subject the user(s) to the physical and psychological stress often associated with immersive environments.

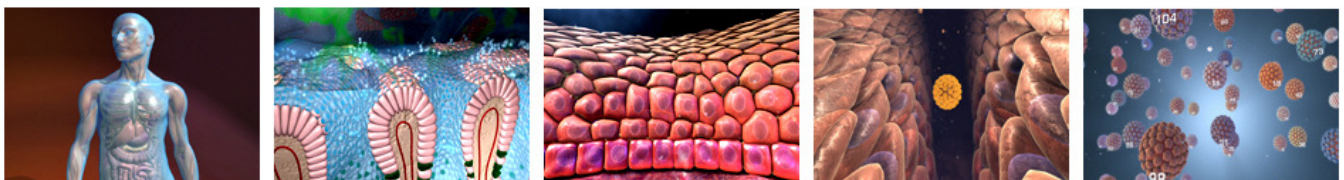
Based upon our experience, 3FX (2009) would argue that both “3D animation & environments” and “immersive environments” do offer a superior cognitive learning experience with increased message retention; and in certain interactive, multimedia cases there is a very apparent socially, collaborative experience that our clients like, identify with, and come to expect.

Characteristics of 3D Animation & Learning Environments

3FX 3D life science animation & visual effects accommodate the highest degree of realism, or fidelity, while at times containing built-in mechanisms for additional cognitive learner controls.

Important visual factors in a 3D environment are the degree of realism provided by the rendered 3D images, and the degree of realism provided by temporal changes to these images. Displaying objects using realistic perspective, texture and lighting calculations, allows for photo realistic quality when the 3D model is defined with sufficient detail. Image changes that reflect the viewer’s motion of objects appears smooth and realistic.

Aspects of cognitive learning, unique to 3D animation & environments, are the ability to change the view position or direction for smooth movement through the environment; and the ability to examine, and at times, manipulate objects. 3D animation & environments can involve objects moving autonomously, simulating real-world or abstract characteristics. Our experience and clients tell us this enhances cognitive learning for life science education and marketing initiatives.



ROMI (Return on Marketing Investment) of 3D Animation & Environments

The cost implications and subsequent ROMI for 3FX life science clients utilizing 3D animation & environments for cognitive learning experiences appear to be relatively similar for animated video, interactive technology presentations and immersive experiences.

The cost of developing a 3D animation & environments can vary based on a variety of factors that include: length, complexity of therapeutic area, use of professional voiceover talent and music, as well as live action video production. These are all elements that affect development cost and timeline; however, with a strategy to repurpose and optimize assets, even the most complex project will generate a similarly, positive ROMI.

3FX provides multiple 3D animation & environments for life science education and cognitive learning initiatives within pharmaceutical, healthcare agency, medical device, biotechnology, and CME markets which include:

Core Medical Animations

- MOA (Mechanisms of Action)
- Disease State Pathophysiology
- Body Systems & Anatomy
- Surgical Procedures
- Device & Delivery Systems
- Stereoscopic Animation
- Interactive Educational Tools
- Virtual Case Visualizations
- Full Dome Immersive Experiences
- Touch Screen Technology

Core Medical Applications

- eLearning Visuals / Online Marketing Visuals
- Trade Show Visuals & Animation
- Product Specific Website Visuals
- Online Interactive Initiatives
- Sales Training Visuals
- CD Rom & DVD Visuals
- High-Resolution Print & Online Collateral

Given that the cost of developing a 3D animation video is a bit less than developing an interactive 3D environment or immersive experience, it is important that the cognitive learning benefits associated with view control and object manipulation be carefully demonstrated and produced by a skilled, multi-disciplined and experienced team such as 3FX.

Recent studies indicate that the delivery of life science content in 3D animated formats & environments do increase cognitive learning for the majority of viewers, regardless of the presentation medium or environment.

It is important, however, that the expectation of learners be that they receive continued message reinforcement from educators via repurposed, integrated support materials – allowing the provider to go even beyond that initial achieved ROMI.

