



Research Supporting the Many Uses of Virtual Field Trips

Manzo, K. K. (2009). **Virtual Field Trips Open Doors for Multimedia Lessons**. *Education Week*, 28(21), 9.

Publisher link:

<http://www.edweek.org/ew/articles/2009/02/11/21virtualtrip.h28.html>

Abstract: The article explores virtual field trips and the use of the Internet in education. School budget restriction and limited instructional time has encouraged the use of the Internet in U.S. classrooms for field trips. Other topics include webcams, interactive ways of learning, and the impact and educational value of simulated trips.

Summary: This article describes the ways in which the Internet can be used in education, focusing on the uses and benefits of virtual field trips (VFTs). VFTs are found to be most effective when they take place in an educationally valuable setting, tell a good story, and are organized by committed teaching staff. A VFT can be used as a stand-alone educational activity, or can be used to enhance more traditional activities.

Clewell, S. (2005). **Study: Online field trips boost reading scores**. *eSchool News*, 8(7), 10.

Publisher Link: <http://www.eschoolnews.com/2005/05/19/online-field-trips-boost-reading-scores/>

Abstract: The article deals with a scientifically based research study from Maryland Public Television (MPT), which states that a collection of online field trips and other web-based learning materials boost reading levels and help improve test scores among middle-school students. The study showed that seventh and eighth graders who used three online field trips, each developed by MPT for social studies and language-arts classes, scored higher on a national reading comprehension test than those who used traditional learning methods alone. According to executives at the nonprofit television station, the study's findings could have national implications for educators who use the Internet as a tool for learning. Researchers found that students who used the electronic field trips performed better on the unit tests than the students using only traditional methods. Results also showed improved reading comprehension among poor

and economically disadvantaged students. It was learned that across the country, teachers are turning to the Internet to provide students with glimpses of places they might not otherwise have the opportunity to see.

Summary: A control-based study of about 400 7th and 8th grade students showed that those students who used three online field trips designed for social studies and language arts classes scored higher on a national reading comprehension test than those who engaged only in traditional educational activities. These online field trips are thought to be most effective when they come with targeted instructional support materials that can help teachers and engage students. Giving students autonomy and choice while on the online field trip can deepen learning.

Charkes, J. S. (2007, March 25). **Field trips: Traveling the world, without so much as a hall pass.** *New York Times*, p6.

Publisher Link:

[http://www.nytimes.com/2007/03/25/nyregion/nyregionspecial2/25WEmain.html?
_r=0](http://www.nytimes.com/2007/03/25/nyregion/nyregionspecial2/25WEmain.html?_r=0)

Summary: Virtual field trips (VFTs) allow students to experience the world at a fraction of the cost of a traditional field trip, helping them to see themselves as global citizens. While not a substitute for real-life immersion in a different culture, when paired with a strong curriculum VFTs can give students experiences that encourage them to further explore the world in-person.

Devaney, L. (2008). **Gas prices fuel rise in virtual field trips.** *eSchool News*, 11(8), 28.

Publisher Link: <http://www.eschoolnews.com/2008/07/14/gas-prices-fuel-rise-in-virtual-field-trips/>

Abstract: This article reports that a growing number of U.S. schools are turning to virtual field trips as an alternative to traditional travel amid budget cuts and rising fuel costs in 2008. Students involved in a virtual field trip use a video conferencing software or a web browser to visit an online destination like the web site of a national museum. Cindy Knoblauch, student activities coordinator, said there is an opportunity for students enrolled in the Florida Virtual School (FVS) to participate in several virtual field trips. There has been a 55 percent increase in virtual field trip usage in the recent school year, according to Ruth Blankenbaker of the Center for Interactive Learning and Collaboration (CILC).

Summary: Virtual field trips (VFTs) offer opportunities for students to visit museums, historical sites, national parks, zoos and other locations without leaving their school, and their use has been increasing. In a time of rising costs

and decreasing budgets, VFTs allow all students to have an equal opportunity to experience interesting and engaging educational experiences.

Smedley, T. M., & Higgins, K. (2005). **Virtual technology: Bringing the world into the special education classroom.** *Intervention in School & Clinic*, 41(2), 114-119.

Publisher link: <https://www.highbeam.com/doc/1G1-139076800.html>

Keywords: Special education

Abstract: The article discusses certain formats of educational technology, describes its advantages and disadvantages, and provides a step-by-step guide to create a virtual field trip for teaching and learning. Educational technology has made great advances in the last two decades. As technology advances, so does the potential it holds for education. Special education is making use of these new developments in a variety of ways. Computer innovations such as enlarged text, spell checking, and text-to-speech are examples of accommodations that are helpful for students with disabilities. Technology-based applications give students access to worlds and environments that are inaccessible, too expensive, or too dangerous in a classroom setting; enable students with disabilities to experience laboratories and field trips at their own pace; and allow them to repeat the experience as many times as necessary. A broad definition of virtual reality includes a text- and graphics-based environment that is simulated by a computer.

Summary: Virtual field trips (VFTs) allow students to experience places that can be too expensive or dangerous to visit in-person. They can be especially beneficial in the special education classroom because they allow students to experience laboratory and field locations at their own pace, repeat the experiences as often as they need to, and can readily rely on technological accommodations such as enlarged text, text-to-speech, and spell-checking. The article includes guidelines for teachers wanting to create their own VFT.

Lester, L. (2012). **Putting rural readers on the map: Strategies for rural literacy.** *Reading Teacher*, 65(6), 407-415. doi: 10.1002/TRTR.01062

Publisher link: <http://onlinelibrary.wiley.com/doi/10.1002/TRTR.01062/abstract>

Abstract: This manuscript provides readers with practical, evidence-based strategies, which have potential to enhance literacy instruction in rural schools. Rural teachers will find this manuscript especially useful as the unique characteristics, disparities and needs frequently present in rural communities are discussed, as well as, specific suggestions on how to enhance literacy instruction and student learning. A framework and instructional strategy are presented, which have potential to enhance the learning of rural students based on specific rural characteristics and features. The framework of place-based education builds upon students' knowledge of their community to enhance the curriculum

and the strategy of incorporating virtual field trips into the curriculum provides rural students exposure to places and cultural institutions around the world.

Summary: This article presents a framework and instructional strategy for enhancing literacy instruction among rural students. Virtual field trips are seen as one strategy for enabling rural students to experience places and cultural institutions they may not otherwise have opportunities to explore.

Zanetis, J. (2010). **The beginner's guide to interactive virtual field trips**. *Learning & Leading with Technology*, 37(6), 20-23.

Publisher link: <https://www.iste.org/resources/Product?ID=750>

Abstract: For students, field trips can be the best of both worlds: a welcome and exciting break from day-to-day classroom activities and a memorable, real-world experience that will solidify the curriculum in their minds. Unfortunately, the most desirable trips--those to far-away, enticing destinations--have long been inaccessible to all but a select few, and even local field trips have become less common as travel costs have steadily risen over the past several years. But today there are other options. Virtual field trips (VFTs) are just what their name suggests: field trips that are conducted virtually, over the Internet and/or videoconferencing equipment, so that students can learn directly from experts in far-flung places without ever leaving their classrooms. Just like traditional field trips, VFTs take a number of different forms. They can involve touring a historic site, witnessing scientific experiments or processes at museums or organizations, watching live demonstrations in the field, attending folk festivals or other events, and much more. They differ from the traditional variety only in that they are delivered over the Internet using technology in either asynchronous or interactive synchronous formats. In this article, the author describes how teachers and their students can see, hear, and interact with the wonders of the world.

Summary: Virtual field trips can be an affordable way for students to experience the benefits of field trips without the expense. Easily accessible technologies such as videoconferencing and the Internet allow students to visit historically significant places, observe scientific experiments or other demonstrations, attend festivals or other significant events, and much more, either synchronously or asynchronously.

Klemm, E. B., & Tuthill, G. (2003). **Virtual field trips: Best practices**. *International Journal of Instructional Media*, 30(2), 177-193.

Publisher link: <https://www.highbeam.com/doc/1G1-107801001.html>

Abstract: Virtual field trips provide an alternative strategy for engaging students in study of the real world. This article examines the functions of virtual field trips to

either enrich or augment actual field trips, or to provide electronic field trip experiences when no actual field trips are possible. We summarize best practices from research and practice for using this form of instruction, and discuss enabling conditions to support virtual field trips as a classroom learning tool.

Summary: Despite the well-known benefits of field trips, numerous challenges, such as lack of administrative support, cost, liability issues, and standards-driven accountability, can prevent these beneficial educational activities from being widely used. Virtual field trips (VFT) provide a cheaper and logistically simpler way to help students learn about and engage with the real world. This article draws on both research and practice to identify best practices for designing and using VFTs.

Stainfield, J., Fisher, P., Ford, B., & Solem, M. (2000). **International virtual field trips: A new direction?** *Journal of Geography in Higher Education*, 24(2), 255-62. doi: 10.1080/713677387

Publisher link: <http://www.tandfonline.com/doi/abs/10.1080/713677387>

Abstract: Virtual Field Trips (VFTs) have a valuable role in supporting and enhancing real fieldwork and empowering students who are disadvantaged financially or physically. The development of good VFT and VFT tools is still in its infancy and full 'virtuality' is still many years away. This article traces the evolution of virtual field trips, outlining their advantages and disadvantages and provides a brief overview of the materials and approaches currently becoming available.

Summary: This article outlines the development of virtual field trips (VFTs), including their advantages and disadvantages, and the resources and approaches currently available. VFTs can support and enhance learning, especially for students who are financially or physically disadvantaged.

Tuthill, G., & Klemm, E. B. (2002). **Virtual field trips: Alternatives to actual field trips.** *International Journal of Instructional Media*, 29(4).

Publisher Link: <https://www.questia.com/article/1G1-97173049/virtual-field-trips-alternatives-to-actual-field>

Abstract: Field trips enhance learning, yet few secondary teachers include field trips in their curriculum because of numerous logistical problems. In this article, we examine several electronic alternatives to an actual field trip and focus on one particular way to bring local, real-world situations directly to the classroom; a virtual field trip (also known as electronic field trip). We examine the many different types of pre-made virtual field currently available on the Internet, discuss the advantages of teacher-made virtual field trips, and consider the advantages

and disadvantages of actual field trips, professionally developed virtual field trips, and teacher-made virtual field trips.

Summary: Due to logistical issues, field trips are often not included in educational curricula despite the fact they are known to enhance learning. Virtual field trips (VFTs) present an alternative to these logistical problems. This article explores different types of virtual and real field trips that can be incorporated into the curriculum, and discusses the advantages and disadvantages of each.

Walling, D. R. (2014). **Can virtual be as effective as real?** In *Designing Learning for Tablet Classrooms* (pp. 97-103). Cham: Springer. doi: 10.1007/978-3-319-02420-2_16
Publisher link: http://link.springer.com/chapter/10.1007%2F978-3-319-02420-2_16

Abstract: Most virtual—meaning computer-mediated—learning experiences are conveyed using apps or interactive websites. This chapter is divided into three segments that discuss (1) games and simulations, (2) virtual representations of actual learning activities, and (3) virtual field trips. The real purpose of games—acquisition of noncognitive skills—has been undervalued. Digital Age educational games serve an important purpose and can fill a real gap. Simulations are merely high-tech versions of role-playing. Virtual activities, from a frog dissection to a field trip to the Grand Canyon, can supplement traditional activities and may be essential alternatives to real-life activities that are beyond the mental or physical capabilities of some students or cannot be provided by schools because of budgetary or other constraints. Which activities will best allow students to engage in active learning and to construct meaning from their experiences? Real? Virtual? In the Digital Age, the likely answer is both.

Summary: This chapter explores games and simulations, virtual representations of actual learning activities, and virtual field trips. It sees these virtual activities as supplementing more traditional educational activities, but also sometimes needing to serve as a replacement for those activities when limitations of budget or student capabilities make those traditional activities challenging. The article suggests that students benefit the most when both traditional and virtual activities are used.

Scott, J., Parr, M., & Richardson, W. J. (2008). **By hook or by crook: Engaging reluctant readers and writers through the use of technology and virtual field trips.** *International Journal of Diversity in Organisations, Communities & Nations*, 8(4), 35-42.
Publisher link: <http://ijd.cgpublisher.com/product/pub.29/prod.741>

Abstract: Diversity is a multifaceted concept which is typically used to describe 'differences' among people. In education, we have much diversity among learners in respect to learning differences and learning styles, as well as individual interests and experiences. Unfortunately, as educators we all too often negate the importance of these differences and deliver a standardized curriculum in a one size fits all fashion to students, regardless of individual differences. In many cases this contributes to student disinterest and disengagement and often impedes the acquisition of critical skills related to literacy, not having which, places them at a greater 'risk' of leaving school without graduating. Grounded in the assumption that reading is an integral and inseparable component of the broader concept of literacy, which involves the six language arts of listening, speaking, reading, writing, viewing, and representing (Parr & Campbell, 2006), this paper provides an overview of a holistic approach to engaging reluctant readers and writers, the students we often consider to be 'at risk'. Recent advances in technology and internet access have opened up a multitude of resources never before available to teachers and students. Many of these, including Virtual Field Trips, can be used to stimulate interest and motivate students to select their own topics of interest and self direct their own research, reading, and learning (Scott, 2007). This paper presents the exploration and use of Virtual Field Trips as a means of engaging students in researching, writing, and sharing with others their developing knowledge on topics of individual interest.

Summary: This article explores the use of virtual field trips (VFTs) for motivating and engaging “at risk” students who are considered reluctant readers and writers.

Blachowicz, C. Z., & Obrochta, C. (2005). **Vocabulary visits: Virtual field trips for content vocabulary development.** *Reading Teacher*, 59(3), 262-268.
Publisher Link: <http://onlinelibrary.wiley.com/doi/10.1598/RT.59.3.6/abstract>

Abstract: A significant body of research suggests that wide differences in concept and vocabulary knowledge exacerbate the achievement gap among students, especially in schools with large numbers of children of poverty. Educators sometimes attribute this difference to the Matthew effect: the sad reality that having a well-developed vocabulary allows a student to learn new words more easily than classmates who have a smaller fund of word knowledge. These concerns led a reading specialist and a group of teachers in a multiethnic urban school to develop Vocabulary Visits--virtual field trips using books to develop the content vocabulary of their first-grade students. Vocabulary Visits use a scaffolded read-aloud with student engagement and semantic activities to develop content area vocabulary. The article contains examples of each step, and the authors present evaluation information as well as ideas for differentiation and extension. (Contains 3 figures.)

Summary: Studies suggest that students who have poor vocabularies struggle to acquire new vocabulary skills. This article describes the process by which teachers in a multiethnic urban school developed and used virtual field trips for their first-grade students. These “Vocabulary Visits” included a read-aloud component, as well as activities that would engage students’ senses and help them learn concepts and vocabulary relevant to the book content. The authors found that student word knowledge increased dramatically after participating in these Vocabulary Visits. This article includes the steps needed for others to create their own Vocabulary Visits, as well as ideas for evaluation, differentiation, and extension.

Jacobson, A. R., Militello, R., & Baveye, P. C. (2009). **Development of computer-assisted virtual field trips to support multidisciplinary learning.** *Computers & Education*, 52(3), 571-580.

doi:10.1016/j.compedu.2008.11.007

Publisher link:

<http://www.sciencedirect.com/science/article/pii/S0360131508001620>

Abstract: Multidisciplinary courses are being developed at a number of US colleges and universities to highlight the connections between the rise or fall of world civilizations and the sustainable or unsustainable uses of soil and water resources. The content presented in these courses is complex because it includes concepts from disciplines as varied as geology, soil science, politics, economics, history, and anthropology. The learning goals for the courses include developing skills in the critical analysis of complex “real-world” problems for which there is often no simple or correct solution. Didactic materials for such courses are limited. Field trips to sites around the world that present some of the issues covered in the course would be ideal, but are logistically challenging. We considered that a series of virtual field trips (VFTs) to sites around the world would allow us to present students with complicated real-world situations, with which to practice critical analysis skills. The VFTs envisaged are neither tutorials nor field/lab exercises. Rather, they are meant to be complex, multi-faceted representations of a past or current civilization and how it affects or is affected by its environment. We expect that the students will use the VFTs to explore the relationships between physical geography and culture and how the decisions or actions of a civilization impact natural resources and the environment and thus affect its fate. A goal of the VFTs is that through consideration of their experiences, students arrive at novel associations that lead to dynamic in-class dialogue about the material presented and a deeper understanding of the intricacies of the situation in the field. This article describes the process of assembling a VFT, and analyzes the technological and didactic choices the process requires. Our experience with a pilot VFT suggests that no single medium (i.e., video clips, interactive maps, animation sequences, etc.) is comprehensive enough to meet the course learning goals. Thus, a web-based, open architecture format was selected for the VFTs because of its simplicity,

flexibility and extensibility. Each medium was selected for its ability to support the course learning goals. The learning process was mediated by the VFT text, questions for thought, and in-class discussions. Preliminary results with the pilot VFT are encouraging.

Summary: While developing virtual field trips (VFTs) can be expensive, complex, and time-consuming, this article sees the educational rewards as “well worth the effort and expense” (p. 579). This article describes the creation of a VFT, including background on decisions associated with technological and pedagogical choices, and reports that undergraduate students in this pilot were engaged with the subject matter and positive overall about the experience.

Kirchen, D. J. (2011). **Making and taking virtual field trips in pre-k and the primary grades.** *Young Children*, 66(6), 22-26.

Publisher Link:

http://www.naeyc.org/tyc/files/tyc/file/V6N2/Kirchen_Virtual_Field_Trips_Online%201111.pdf

Abstract: A virtual field trip (VFT) is a technology-based experience that allows children to take an educational journey without leaving the classroom. These multimedia presentations bring the sights, sounds, and descriptions of distant places to learners. Virtual fieldtrips vary in complexity. They can range from a single PowerPoint or video presentation to a multifaceted virtual experience integrating photos, videos, text, audio, video conferencing, and Internet resources. The VFT learning experience does not replace reality but serves to expose children to experiences they typically cannot have. In this article, the author discusses how to make and take virtual field trips in pre-K and the primary grades. He shares some of the benefits teacher-created VFTs offer.

Summary: The author argues that while virtual field trips (VFTs) cannot and should not replace traditional, physical field trips, they can help students explore and expand their world if done properly. VFTs can be a good alternative to traditional field trips, and can offer geographical autonomy, increased control, and greater accessibility and flexibility. However, they can also be detrimental to learning if they are not created to be interactive, engaging, and integrated into the curriculum. While they can increase accessibility and usability, VFTs can also be limited by students' access to necessary technologies, as well as their skills with those technologies. The author also includes guidelines for creating and using VFTs in pre-K and primary grades.

Morgan, H. (2015). **Focus on technology: Virtual field trips: Going on a journey to learn without leaving school.** *Childhood Education*, 91(3), 220-222. doi:10.1080/00094056.2015.1047316

Publisher link:

<http://www.tandfonline.com/doi/abs/10.1080/00094056.2015.1047316?journalCode=uced20#.V2ntcJMrKR>

Abstract: The article looks at many advantages of virtual field trips (VFTs). It compares VFTs with traditional field trips in terms of learning opportunities. Well-planned VFTs are recognized for allowing students to make connections with the real world as they interact with professionals. Teachers are advised to combine traditional field trips with VFTs to develop more powerful learning experiences.

Summary: Like traditional field trips, virtual field trips provide numerous advantages and learning opportunities. While they need to be well-planned to work well, they allow students to connect and interact with people and places outside their school without leaving the classroom. The author recommends combining virtual field trips with traditional field trips to foster even greater student learning.

Stoddard, J. (2009). **Toward a virtual field trip model for the social studies.** *Contemporary Issues in Technology and Teacher Education*, 9(4), 412-438.

Publisher Link: <http://www.citejournal.org/volume-9/issue-4-09/social-studies/toward-a-virtual-field-trip-model-for-the-social-studies/>

Abstract: In the current state of social studies education, field trips are being cut from many schools' curriculum. While not a true substitution, today's technologies provide some opportunities through virtual field trips (VFTs) to simulate these experiences, engage students in knowledge production and disciplined inquiry, and have interactions with the dedicated staff members from these historic sites. Many of the current VFTs, however, fall short of this goal and instead serve as an updated form of a content delivery model, with little interaction or student engagement in historical issues. This article describes research on field trips, hybrid distance learning models, and virtual field trips in the social studies and other areas, as well as a critical case study of one of the most prominent and long lasting virtual field trips, Colonial Williamsburg's Electronic Field Trip program. A model for future social studies VFTs and ways to integrate these VFTs into authentic social studies instruction are developed. The case study revealed a number of key issues that arise in the development and execution of VFT programs, and the ensuing VFT model should be helpful for teachers and VFT developers. (Contains 3 figures and 8 online resources.)

Summary: While virtual field trips (VFTs) can be a good alternative to traditional field trips, they are not always created or integrated in ways that maximize student learning. This article explores what a model VFT in social studies should look like, how teachers and developers can create authentic experiences for students using VFTs, and how well Colonial Williamsburg's Electronic Field Trip

Program exemplifies a model VFT. The article proposes a model for designing and implementing VFTs, emphasizing the need for teacher development, active engagement, and technological literacy. It argues that virtual field trips must provide authentic experiences for students in order for them to gain the skills and knowledge they should be gaining from these experiences.

Puhek, M., Perše, M., & Šorgo, A. (2012). **Comparison between a real field trip and a virtual field trip in a nature preserve: Knowledge gained in biology and ecology**. *Journal of Baltic Science Education*, 11(2), 164-174.

Publisher Link: <http://journals.indexcopernicus.com/abstract.php?icid=1001975>

Abstract: The research presents a case study in the scope of which real and virtual field trips have been compared. The emphasis was on determining the levels of knowledge gain effectiveness in the fields of biology and ecology. A pre-existing natural trail in the protected area of Marlbor Island was chosen and digitized for the purposes of the study. During the development of the virtual trail, real fieldwork was simulated in order to ensure a valid comparison. In the spring of 2011, field exercise tests were conducted by means of a study sample consisting of 211(8th grade) lower secondary school students. The results have generally shown minute differences between the levels of knowledge acquisition effectiveness between both field trips. The results have also led to the conclusion that the students participating in the real field trip were more successful in their performance regarding the exercises they had been assigned, which included real objects serving as tools supporting the students in their observation and investigation endeavours. On the other hand, the students participating in the virtual field trip were more successful with regard to computer-assisted exercises, where they were able to access additional information on more complex processes.

Summary: This study compared a real and a virtual field trip to determine how effectively students acquired knowledge pertaining to biology and ecology. An existing nature trail was digitized and students were given activities to complete in the field and using the digitized nature trail. Differences in knowledge acquisition between the two methods were minimal, and each had unique advantages.

Sriarunrasmee, J., Suwannathachote, P., & Dachakupt, P. (2015). **Virtual field trips with inquiry learning and critical thinking process: A learning model to enhance students' science learning outcomes**. *Procedia - Social and Behavioral Sciences*, 197,1721-1726. doi: 10.1016/j.sbspro.2015.07.226

Publisher link:

<http://www.sciencedirect.com/science/article/pii/S1877042815042275>

Abstract: This paper aimed to present a learning model using virtual field trips (VFTs) with inquiry learning and critical thinking process to enhance science learning outcomes of lower secondary students based on the research and development. Phase 1 of this paper showed the process of develop a learning model and phase 2 showed the result of implementation with the lower secondary school students. After implementation, the learning model was revised using qualitative data from observation, students' opinion from a survey, and the assessment from experts. The research instruments used to assess science learning outcomes were the test for assessing students' skills of concept mapping, retrieval information, meaningful communication, and critical thinking. Samples were 104 Science teachers, 26 Science education experts, 31 students attending the 8th grade of a secondary school, and 5 instructional design experts. This VFTs learning model with inquiry learning and critical thinking process consisted of five main components: 1) Content and Activities, 2) VFTs media and resources (video clips, pictures, animations, online diaries, worksheets, activity sheets, and games), 3) experts from the field trips resources, 4) a learning management system for virtual field trip, and 5) assessment and evaluation. There were three phases of learning activities: 1) Pre-using the VFT activities (1 week), 2) During the VFT activities (2 weeks), and 3) Post-using the VFT activities (2 weeks). All phases included 6 learning steps: engagement, investigation and exploration, explanation, conclusion, elaboration, and evaluation. The results of exploring effectiveness of the VFTs learning model from one group pretest posttest experimental research design showed the students' science learning outcomes posttest scores had significantly higher than the pretest at a level of significance of .05 and five experts' assessment before and after try-out the model were appropriate in high level.

Summary: This article describes a learning model intended to improve science learning outcomes of 8th grade students by merging virtual field trips (VFTs) with critical thinking and inquiry-based learning. The learning model consists of five elements, and the article describes the phases of the activities included in it. The authors found that the model, when piloted for effectiveness, was found to significantly improve students' science learning outcomes.

Lacina, J. G. (2004). **Designing a virtual field trip.** *Childhood Education*, 80(4), 221.

Abstract: Virtual field trips offer a new way for teachers and students to visit historical sites and museums. Most notably, virtual field trips provide access to places that normally would be impossible for classrooms to visit, and this, in turn, provides a plethora of learning possibilities for the classroom. Why should teachers consider creating a virtual field trip? Virtual field trips are an inexpensive way to integrate hands-on technology into the curricula while maintaining high student interest in the unit being studied. Virtual field trips offer a student-centered approach to instruction, and they diversify the teaching methods of

content area instruction. Also, virtual instruction allows students to view people and places in a visually stimulating environment, which cannot be done through mere textbook reading. This article provides tips and recommendations for teachers on how to make a virtual field trip a success. It concludes with a list of resources for developing a virtual field trip such as Web sites; and virtual field trip examples.

Summary: Virtual field trips (VFTs) allow teachers to diversify their instructional techniques and provide access to educational sites, such as museums and historical sites, that would otherwise be impossible to visit. This article provides tips, recommendations, and resources to support teachers wanting to design their own VFT.

Stevenson, S. (2001). **A guerrilla guide to virtual field trips**. *eSchool News*. Retrieved from <http://www.eschoolnews.com/2001/10/01/a-guerrilla-guide-to-virtual-field-trips/>

Summary: This article outlines the advantages of virtual field trips (VFTs), and provides links to resources that support the creation of VFTs, including topics such as classroom management, rubrics, and sites containing pre-made VFTs.

Caliskan, O., & 3rd World Conference on Educational Sciences, WCES-2011. (2011). **Virtual field trips in education of earth and environmental sciences**. *Procedia - Social and Behavioral Sciences*, 15, 3239-3243. Publisher Link: <http://www.sciencedirect.com.ezproxy.wheaton.edu/science/article/pii/S187704281100824X>

Abstract: Laboratory exercises, field observations and field trips are fundamental parts of many earth science and environmental science courses. Field observations and field trips can be constrained because of distance, time, expense, scale, safety, or complexity of real-world environments. During the last decades actual field trips have been losing power and attention because of the limitations mentioned above and virtual field trips have been started to think as an alternative to the actual field trips. The aim of this study is to research the historical background and development of the virtual field trips in education of earth and environmental sciences. It is also discussed the potential and limitations of the virtual reality to provide and support student centered, meaningful and deeper learning environment.

Summary: While field trips, laboratory exercises, and field observations are considered essential components of many earth and environment science courses, they are becoming more and more difficult to implement because of logistical issues such as distance, cost, and safety. This article describes the

historical development of the use of virtual field trips in those classes, and discusses the advantages and disadvantages of their use.

Foley, K. (2003). **A virtual field trip into real technology standards.** *Multimedia Schools*, 10(1), 38.

Publisher link: <https://www.questia.com/magazine/1P3-275295351/a-virtual-field-trip-into-real-technology-standards>

Abstract: Presents information on the application of virtual field trip in teaching students. Definition of virtual field trip; Application of virtual field trips in meeting the National Educational Technology Standards; Other curriculum requirements meet by virtual field trips.

Summary: This article discusses how virtual field trips (VFTs) can be used to meet National Educational Technology Standards (NETS).

Garner, L. C., & Gallo, M. A. (2005). **Field trips and their effect on student achievement and attitudes: A comparison of physical versus virtual field trips to the Indian River Lagoon.** *Journal of College Science Teaching*, 34(5), 14-17.

Publisher Link:

http://www.nsta.org/store/product_detail.aspx?id=10.2505/4/jcst05_034_05_14

Abstract: This study examined the effect of physical and virtual field trips on undergraduate, nonscience majors. No significant differences were seen in achievement, attitudes, learning styles, interactions between field trip and learning styles, or students' ability to answer questions at different levels. Results imply that both field trips promote learning.

Summary: A study comparing traditional and virtual field trips found no significant difference between the two when examining student attitudes, achievement, comprehension, or learning styles. This suggests that both field trip methods support student learning outcomes.

Gillett, J. (2011). **The use of experiential education and field trips for learning.** *Journal of Educational Multimedia and Hypermedia*, 20(2), 173-177.

Publisher Link: <http://www.editlib.org/p/36043>

Abstract: The purpose of my action research is to create meaningful virtual field trips that give students many of the same benefits as actual field trips. Since educational budget cuts are preventing students from participating in real field trips there needs to be an alternative way to deliver that content. I hope to demonstrate how I am improving my practice as well as how I

can contribute to the body of literature by researching and creating virtual field trips that help make up for the atrocious lack of actual field trips for students to experience. It's my hope that these virtual field trips will overcome the obstacles that teachers and student find blocking their access to benefits of actual field trips.

Summary: Virtual field trips can provide a budget-friendly alternative to traditional field trips. This article includes plans for several virtual field trips, as well as insights into the process of developing them and the benefits of making these trips available to students.

Lee, K. (2013). **The effects of flash panorama-based virtual field trips on middle school students' spatial visualization ability, conceptual understanding, and perceptions.** *Journal of the Korean Earth Science Society*, 34(2), 162-172. Doi: <http://dx.doi.org/10.5467/JKES.2013.34.2.162> (In Korean) Publisher link: <http://jkess.org/journal/article.php?code=12069>

Abstract: The purpose of this study is to investigate the effects of flash panorama-based virtual field trips (VFT) as a supporting tool for geological field activity on middle school students' spatial visualization ability, conceptual understanding, and perceptions. A total of 17 middle school students participated in a three day long actual geological field trip around Jeju Island where a three-phase instructional model is applied for utilization of flash panorama-based VFT, which was proposed by Kim and Lee (2011). With one-group pretest-posttest pre-experimental design, data were collected using questionnaire and were analyzed to find out a change in students' spatial visualization ability and volcanic concept understanding, and their perceptions about the utilization of flash panorama-based VFT. Findings are as follows: First, the effect of utilizing flash panorama-based VFT in actual field trip revealed that there was meaningful increase in 'spatial relation' category of spatial visualization ability and 'knowledge' and 'comprehension' domains of volcanic concept understanding. Second, majority of students showed positive gain index in both spatial visualization ability and volcanic concept understanding. Lastly, participating students showed much interest and high satisfaction, and positive perception on the use of VFT. They also perceived that the utilization of flash panorama-based VFT could help in carrying out an actual field trip in terms of cognitive and geographical factors.

Summary: In this study, 17 middle school geology students participated in a real field trip that used flash panorama-based virtual field trips (VFTs) to enhance student learning. The study found that students were very positive about the use of the flash panorama-based (VFTs) during their field trip, and also that students demonstrated improvement in their spatial visualization ability, as well as their knowledge, and comprehension of the subject matter.

Placing, K., & Fernandez, A. (2002). **Virtual experiences for secondary science teaching**. *Australian Science Teachers' Journal*, 48(1), 40-43.
Publisher links: Not available

Abstract: Investigates a number of virtual experiences and creates three categories: (1) virtual field trips; (2) virtual digs; and (3) fieldtrips incorporating virtual reality.

Summary: This article explores virtual experiences for teaching secondary science, including: virtual digs, virtual field trips, and virtual reality field trips.

Schutt, K. (2016). **5 ways to make the most of virtual field trips**. *eSchool News*. Retrieved from: <http://www.eschoolnews.com/2016/02/04/5-ways-to-make-the-most-of-virtual-field-trips/>

Summary: The article describes five ways to help make virtual field trips (VFTs) meaningful for students: prepare, engage and connect, model, reflect, and share.

Holland, K. (2006). **How does a virtual field trip compare to the real thing?** *Online Classroom*, 2.
Publisher Link: http://www.magnapubs.com/newsletter/online-classroom/33/how_does_a_virtual_field_trip_compare_to_the_real_thing-10311-1.html

Abstract: The article compares the response of students to the virtual field trip (VFT) developed by teacher Kim Holland with the actual field trip (AFT) at the University of Western Ontario in London. VFT participants were able to remember the content compared to AFT participants. Students who attend the AFT tend to remember the social interaction rather than the content. According to Holland, the difference between the two is that the AFT involves many distractions while the VFT is less fun but allows students to concentrate on the content.

Summary: This article compared a virtual field trip (VFT) to a traditional field trip, and found that traditional field trips tend to be more distracting for students, who remembered social interactions more than content in these situations. The VFT was found to be less fun for students, but enabled them to focus on the content with fewer distractions.