

THE VALUE AND IMPORTANCE OF FIELD TRIP EXPERIENCES TO ADULT  
LEARNERS IN CONTINUING HIGHER EDUCATION



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## Abstract

### THE VALUE AND IMPORTANCE OF FIELD TRIP EXPERIENCES TO ADULT LEARNERS IN CONTINUING HIGHER EDUCATION

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The purpose of this study is to explore the value and importance of including field trip experiences for adult learners in continuing higher education. The study seeks to answer what the perceived importance is to an adult learner seeking a higher education. The goal is to analyze how providing a different environment of learning such as a field trip experience can benefit and impact adult learners' long term life learning. Because field trips can come with restrictions: financial, physical, transportation, timing of the experience, and more, alternatives may be useful. A possible substitution for a physical field trip could be a Virtual Field Trip (VFT). With technological advances, field trips can be provided not only in a physical capacity, but in a Virtual Field Trip (VFTs) format as well. Virtual Field Trips have a valuable role in supporting and enhancing real field work and empowering students who are disadvantaged financially or physically. The development of a good VFT and good VFT tools are key for providing the maximum learning experience to the adult learner. Virtual Field Trip is seen as providing different insights and learning experiences from those provided by a lecture or practicum. They are a unique social experience, which builds group identity, team spirit and good staff-student relationships (Clark, 1996). A perceived value of accelerated learning can be achieved more quickly, which is helpful to the adult learner.

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## **Chapter One: Introduction**

Higher education is said to produce balance between theory and real practice in a given field or trade. It is viewed as a source of great potential for the socioeconomic and cultural development of our country. With our rapidly changing world, there is a need to evolve not only on the academic side but in student life as well. Adult learners are the main clients of higher education and the nucleus of the learning institution. They require effective education and the latest means of acquiring knowledge so they can have a better grasp on what they are presently studying and how to apply that knowledge in their future. For this purpose, non-traditional learning activities such as workshops, local conferences, and education field trips are essential teaching methods to conduct at this level. Specifically, the activity of educational field trips can provide knowledge to the adult learner in a unique environment that can stimulate understanding of real world application practices via observation, sensory learning, and hands-on training which can lead to long-term growth (Veverka, 2015).

Using the simple means of moving the site of instruction so that it takes place outside the classroom, or “in the field,” can be considered a field trip, though that definition is very broad. It may be part of a day, a day long or longer. It can be a simple guided tour to an area of interest or it may include conducting active research-oriented field projects. But when a field trip merely moves a classroom lecture outdoors with perhaps an added element, it is believed that simple transplantation usually merely adds inconveniences and distraction rather than educational value. It makes what may have been a reasonably effective classroom lecture into an ineffective field experience. However, when field instruction includes specific tasks to be accomplished or problems to solve where students are allowed to make observations, discern patterns and

relationships, determine correlations and make evaluations, the students in effect are practicing the process of scientific inquiry first-hand (Veverka, 2015).

Field trips can provide a customized and unique learning opportunity for authentic, meaningful, and self-determined learning for continuing adult learners. Field trips need structure to capitalize on these learning opportunities. Field trips could provide motivation in the form of the adult learners feeling empowered by self-choice, as well as by learning from the encouragement of the instructor, who motivates them to engage in learning activities while on the trip. Choice, control and structure are important to the planning of a field trip. Studies have not taken the impact of teacher motivation style into account. A field trip with a teacher who inspires the students becomes more than simply a relocation of the class, accompanied by worksheets (DeWitt & Storksdieck, 2008; Randler, Baumgartner, Eisele & Kienzle, 2007).

For the instructors, their role as the narrators or communicators of material is somewhat diminished as the students are making their own original observations in the field. The instructor's responsibility shifts to keeping the student focused and effective in their observations and deliberations. The teacher role changes to that of guidance in observational techniques, and answering students' questions. In practice, this means less control of the group as a whole by the instructor, and more interaction with individuals or small groups. However, this change in relationship between student and instructor offers an opportunity to break down classroom formality barriers and potentially precipitate a more cordial and human level of student and instructor interaction (DeWitt & Storksdieck, 2008; Randler, et al., 2007).

With technological advances, field trips can be provided not only in a physical capacity, but in a Virtual Field Trip (VFTs) format as well. Virtual Field Trips may have a valuable role in

supporting and enhancing real field work and empowering students who are disadvantaged financially or physically. The development of a good VFT and good VFT tools are key for providing the maximum learning experience to the adult learner. A VFT is seen as providing different insights and learning experiences from those provided by a lecture or practicum. The VFT is a unique social experience, which builds group identity, team spirit and good staff-student relationships (Clark, 1996). A perceived value is that learning can be accelerated, which is helpful to the adult learner.

The purpose of this seminar paper is to explore the importance of including field trip and VFT experiences in adult continuing education and to relate them to knowledge regarding how adult learners learn. The paper seeks to provide extended educational value and possible increased effectiveness to an adult learner.

### **Statement of the Problem**

The problem to be addressed is what is the importance of including field trip experience in adult higher continuing education? What can be gained by providing by offering an educational field trip?

### **Definition of Terms**

- Traditional field trip: A field trip is defined as a visit to a place that gives students the chance to study something in a real environment, rather than in a classroom or laboratory. It can be a group excursion for the purpose of firsthand observation, as to a museum, the woods, or a historic place (American Heritage Dictionary of the English Language, Fifth Edition, 2016). Field trips can be made by students or researchers to study something at first hand or to gain firsthand knowledge away from the classroom.

- Virtual field trips (VFTs) is using technology or involving simulations, or an experience once-removed. It can be an alternative to a physical field trip. A virtual field trip is a guided exploration through the World Wide Web that organizes a collection of pre-screened, thematically based web pages into a structured online learning experience (Foley, 2003). It is an inter-related collection of images, supporting text and/or other media, delivered electronically via the World Wide Web, in a format that can be professionally presented to relate the essence of a visit to a time or place. The virtual experience becomes a unique part of the participant's life experience (Nix, 1999). A Virtual field trip is a simulated, real-time field trip. In the case of interactive video conferencing, students interact, in a live, planned event, with a remotely located field trip host (Cole, Ray, & Zanetis, 2004).

### **Method of Approach**

Typical formats and outcomes for traditional field trips in post-secondary education were examined. A second review of literature relating to alternative field trip education was also conducted. The literature review focuses on field trip course design, best practices, challenges, organization, strengths, and faculty and student perceptions associated with field trips. The findings are summarized and recommendations are made.

## **Chapter 2: Literature Review**

### **Traditional classroom versus field trip**

Traditional instruction involves the act or practice of teaching, generally in a standard classroom. A traditional classroom generally includes textbooks, computer program access, and face-to-face instruction and lab materials. There may be limitations to teaching in a traditional classroom such as lack of resources, few opportunities for stimulation, and little room to expand upon presented knowledge. Educational field trips can help expand on a lesson plan. They are helpful for the teacher to seek to clarify, establish, correlate and coordinate accurate concepts, interpretations and appreciations. They enable instructors to make learning more concrete, effective, interesting, inspirational, meaningful and vivid (Aggarwal, 2003). Educational field trips can provide a triangular process of learning that incorporates motivation, clarification and stimulation all rolled into one experience. Often classroom environments lack the necessary tools, equipment or means to give adult learners a better understanding of concepts, practices and procedures. Learning in, and at, an off-premises environment can help make up for lack of resources within the school, and add value to the course content and curriculum. J. C. Aggarwal (2008) clears that educational field trips aims at enriching, vitalizing and complementing content areas of the curriculum by means of first hand observation and direct experience outside the classroom.

Learning in an informal location, such as a museum for example, can provide access to learning objects and awaken learner interests and emotions. Positive interest and emotions can lead to greater engagement (Flowerday, Schraw, & Stevens, 2004; Pekrun, Gotz, Titz, & Perry, 2002). Teaching outside the walls of a traditional classroom can help students understand the past and relate it to the present as responsible citizens (Robelen, 2013).

Studies on student learning during primary- and secondary-school course-related field trip activities have shown lasting cognitive and socio-cultural effects. However, fewer studies have investigated the potential benefits of incorporating field trip activities into post-secondary education. One study (Orien & Hofstein, 1991) examined students' attitudes regarding the application of field trip activities to the learning of chemistry. The curriculum was for a first-year university chemistry course, but the field trips that were chosen provided the foundations for understanding processes students encountered every day. As a way of seeing their lecture material in action, taking field trips to water treatment plants helped them see a real-world application of solution stoichiometry and polymer chemistry. Similarly in the study, a trip to a winery assisted students in understanding chemical transformations that occur in organic molecules. Lastly in the study, a trip to wastewater treatment plants enabled students to see applications of acid-base and redox chemistry. These experiences allowed students to engage the material on a level difficult to convey in the classroom. The researchers found that students believed field trips can provide an opportunity to help them see beyond their everyday experiences, into the world around them, through a chemist's eyes.

Field trips can also satisfy instructor motivations to not only facilitate learning as a way of connecting with the curriculum, but also to engage students by (a) providing new learning experiences, (b) fostering interest and motivation in students, (c) promoting lifelong learning, and (d) engaging with the local science and technology communities (Forest & Rayne, 2009).

### **Beginning versus the end**

When is the best time to plan a field trip? What time of year does a lesson plan take its best grasp on the learner? Timing could produce a better way to capture students' attention with meaningful learning experiences (Veverka, 2015). Offering a field trip prior to the beginning of

introducing a new lesson plan or unit could help students to begin to understand the lesson at hand. Generally, field trips come at the end of the unit, quarter or year, however. It is suggested that better topic understanding could be provided if a field trip was offered in the beginning versus the end.

Instructors planning a field trip should consider typical seasonal weather conditions. Emphasizing basic concepts that can be applied regardless of the starting point or destination of the trip would aid in planning trips that will be meaningful regardless of timing (Butler & Wilkerson, 2000).

### **Field trips and fieldwork experience**

Often credit-bearing industry experience, internships, co-ops or work experience are required for graduation. Field trips may branch into fieldwork where the students are emphasizing some basic concepts that can be applied during work done. Firsthand observations made in the field as opposed to those made in a controlled environment, will be beneficial. Fieldwork can include the collecting of sociological or anthropological data in the field. An example would be a college-level field experience for geography graduate students. Many geographers enter the discipline simply because of their love to travel (Butler, 2000). Though field trips for data collection for a geography student may be limited due to seasonal weather.

How do adult learners gain their knowledge of fieldwork? For many college students, the field experience manifests itself in one of two forms: a course in field methods and techniques or a summer field experience. The course is generally offered during the regular academic year and offers an introduction to methods and techniques of the subject. Using the example of geography, most of the fieldwork consists of leaving the geography building to map the adjacent lawn and nearby trees, measure a few angles, and take a trip to a local planning agency to interview

experts in the field. This is valuable for introducing students to field methods and techniques, but it does not carry out the actual fieldwork in an off-campus setting.

A summer field experience can be a continuation, alternative, or branch off of the course in field methods and techniques. This option typically takes the form of one of two types of experience, on-campus and off-campus. Using geography students as example, the students pilgrimage to a location where a wide variety of geographical learning experiences present themselves, such as learning the differences in timing of leafing and flowering of plants in specific biogeographic regions during the summer season. Opportunities abound for examining aspects of the environment that are rarely encountered during other times of the year. In some cases, simply experiencing weather conditions different than those that typically characterize the field trip destinations of summer can open student's eyes. The season a field trip is offered can provide excellent opportunities for the observation of processes, and their results, that may not be experienced at other times of the year or in different parts of the area (Butler, 2000).

### **Economic and societal usefulness of field trips**

Because each student learns differently, one cannot predict what will impress or stimulate interest. When students have the opportunity to be inspired by originality, perseverance, or stories of others who have overcome difficulties, this can change the course of their lives or leave a valuable impression going forward. For example, while on a field trip to a local manufacturer, students can observe and speak personally to the owner or person conducting the tour and giving the information. They witness the demonstration of work ethic, team work and working efficiently. Business owners and their employees can provide valuable stories regarding how they became successful in their line of work, the history of the business, their business plan, learned lessons, failures, and skills they needed to be successful. Students can also make

important business contacts and network. Businesses may employ students after graduation, provide internships, or offer work experiences. Community relationships and networking could blossom. Working together, former students and businesses could become allies, merging to support or promote each other's businesses. Creating the awareness of services or products, such as a produce farm business providing fresh tomatoes to the former student's restaurant, could create a vendor and business partnership out of the experience.

Benefits to field trips can include economically useful skills in numeracy, literacy and appreciation of arts and culture (Greene, Kisida, & Bowen, 2014). Culturally enriching field trips can increase students' critical thinking skills, as well. Out of the classroom learning can lead to a positive impact on low-income students by providing opportunities to experience things to which they have previously not been exposed (Robelen, 2013). Such experience can improve students' ability to think critically, tolerate differing views, and develop an interest in returning for further visits. They can develop a stronger historical understanding as well as empathy, as a result of a field trip.

People spend most of their time between home and the workplace. Those who are fortunate to be able to afford continuing education are able to experience more beyond the classroom. For most, a global view is far removed from their lives, including life experience, training, and education. It can be difficult to find time to take in an experience that could enhance their knowledge and further their understanding. At the same time, serious education that involves students experiencing the world beyond the classroom and campus can have a beneficial impact on serious scientific study and appreciation of the nuances in a field of study. According to Carter (1993), failure to expose all citizens, including those with a secondary education as well as those with advanced degrees outside the sciences, to participatory field

study, has resulted in a world inundated by a single species that is incapable of making basic decisions vital to the future of the planet. Furthermore, we are asking our population to make long term decisions that require considerable knowledge of subject matter that requires considerable knowledge of basic concepts without ever experiencing the appropriate environment.

Instructors are quick to teach new scientific discoveries and their related technologies, but fail to teach from the history of those lessons. Consequently (in the natural sciences, for example), instruction falls short in passing on to present and future generations concepts of diversity and variables in living systems. Evolution, for example, has become a classroom lecture, or computer model laboratory study, rather than a detailed field study for identifying, collecting, counting and measuring real organism in natural habitats (Carter, 1993).

Students struggle to make connections. Field trips can put students in touch with nature and discovering by doing. They can change perspectives and attitudes, move the students out of preoccupation with themselves and their immediate problems, and teach them how to live as a part of the larger natural world (Carter, Hepper, Saigo, Twitty, & Walker, 1990). Seeing and feeling the sun rise while on a nature hike can provide a setting where a study in-depth no longer means reading the next chapter in a textbook. The textbook becomes an important reference, a tool for participatory learning, but on that hike, students do not need to read about it, they can feel and sense the experience.

Another example concerns evaluating learning outcomes of an international field trip (Isoardi, 2010). The specific field trip examined was a course in lighting. The instructor wanted to introduce students to aspects of lighting challenges. To achieve this, an international field trip was undertaken that sought to provide an authentic learning experience for students. Twelve

Masters of Lighting students from two Australian universities took part in a field trip to Shanghai, China and surrounding areas. The goal was to offer students insight into practical issues in the lighting industry at an international level and to do so in a unique and authentic context. To evaluate the outcomes of the trip, each participant was surveyed afterwards.

The findings showed benefits including: increased knowledge and insight into manufacturing issues in lighting, experiential learning in lighting design practice not available locally (e.g., master planning), increased understanding of cultural influences in design, and enhanced professional contacts within the lighting industry. Field trips may also act as an inverted curriculum experience for new students to engage them and promote learning within a professional context (Isoardi, 2010).

### **Virtual Field Trips**

A virtual field trip (VFT) uses technology to create a vivid learning experience in situations where a traditional field trip may be impossible or impracticable. It is an experience once-removed. Some students may have financial constraints or a physical disability which prevent them from a field trip experience. These students could be empowered by a VFT. A VFT could offer multiple language tools to provide better communication and understanding to international adult learners. This may be more difficult to accomplish in a traditional field trip. Further, a VFT can be used to prepare a student for a traditional field trip.

The primary aim of VFT has not been to replace field trips but rather to introduce students to various aspects of relevant environments and develop some of the basic skills needed for going into the field or as follow up exercises after a field trip (Gilmour, 1997). Another aim has been to improve the efficiency of instructional time in a given field. Virtual Field Trips can replace or enhance background lecturing and increase the time spent by students exploring

specific issues in a more inquiry-based manner both in the field and on campus. By providing more of the lecture material online, students can study it before they come to class or depart on a field trip. Students can also review it after the trip. The VFT can help students integrate skills, knowledge, and application, and appreciate the values and ethics inherent in the setting of the VFT. For instance, many professional settings value collaboration, exchange of ideas, and innovation.

An experimental study conducted by the Robelen (2013) found that school visits to an art museum yield multiple benefits for students, especially those of low family income. The outcomes identified included improvements in students' knowledge of and ability to think critically about art, a stronger historical empathy, a greater tolerance for differing views, and an interest in returning for another visit. But what if the instructor does not have the means, time or ability to plan such a field trip? What alternative could they create to offer a similar experience without leaving the traditional classroom?

A study of Virtual Field Trips suggests that VTFs have a valuable role in supporting and enhancing real fieldwork and empowering students who are disadvantaged financially or physically (Stainfield, Fisher, Ford, & Solem, 2000). One practical advantage is reduced time spent in lesson planning. A VFT in the form of a multimedia slideshow content could be designed to align with curriculum objectives. Though the initial creation of the media would take time, it would take very little time to update it for future use. This could reduce an instructor's required time commitment to lesson planning by having a classroom resource which will help achieve instructor goals with less preparation time. Knowing that not all students learn the same way, integrating virtual field trips could allow an instructor to reach learners more successfully. Visual content could help learners who have language challenges as well as those

with special needs. Other student groups that can benefit from this form of learning are those with attention-span challenges, as well as students who learn via multiple intelligences, specifically, visual learners. It may also provide the motivational value of incorporating technology into the instructor's pedagogy, allowing educators to integrate technology into the classroom, thereby increasing student engagement.

The VFT could have implications in public schools as well. In this day and age, liability and security issues are often at the forefront of many decisions that are made regarding students in the school system. Virtual field trips could provide an alternative to an actual field trip without the need for concern regarding student safety. According to Stainefield et al. (2000), current students are 21<sup>st</sup> century learners. Instructors have a responsibility to prepare them for technology-rich careers and lifestyles that the students could lead in the future. Introducing and/or incorporating 21<sup>st</sup> century learning tools, such as computers and the internet, into student's learning will allow them to be more technology.

Hovell (2005) found that the use of virtual field trips (VFT) were most successful when the innovation was implemented as part of a collaborative and constructivist learning environment. When teachers acted in a facilitating role and were co-learners in the process, both the student and teacher stakeholders became enthusiastic and passionate about the learning medium. The teacher-student dyad can become more interactive and mutually supportive if the teacher allows the leap into the unknown and relinquishes traditional top-down control (Robinson, 2009). In many cases students will be 'digital natives' and will have familiar in the digital territory, discovering ways of interacting with the medium that the teacher (digital visitor) may not have considered (Robinson, 2009). Thus, the students can teach the teacher.

Spicer and Stratford (2001) examined undergraduate student perceptions regarding virtual field trips (VFT) and in particular the extent to which a program could replace real field trips and still meet the students' needs. Results indicated that students felt a VFT could not replace a real field trip but could be effective in preparing for, or revising after, a real trip (Spicer & Stratford, 2001).

A VFT can never recreate the sensory stimulation, insights or fluid social interactions of an actual field trip (Stainfield, et al., 2000). Students want to have some level of control of what, how and when they learn. The VFT can be misused. The novelty value of an electronic experience will wane if the computers are used repeatedly as a digital babysitter to pacify students (Bellan & Scheurman 2001). Moreover, older students will recognize if the learning objectives are unclear or if there is little preparation or if post hoc follow up to enhance the learning experience is not done. In that case, the learning experience will be discounted and disparaged. Thus, the success of a field trip in either an active or virtual format is highly dependent upon preparation for the experience, engagement while on the trip and carefully planned reflection after the field trip is over (Cox & Su, 2004).

On the other hand, a VFT cannot provide the 3-D awe-inspiring grandeur and feel of cold snow on a snow-covered mountain, the humidity of a rainforest, the smell of fresh bread coming out of an oven, or knowing by feel and touch when a steak is cooked to a medium temperature. Bellan and Scheurman (2001) showed that a VFT did not allow for the participants to interact in a flexible manner and did not promote the same level of problem solving skills that can occur on a real physical environment. Bellan and Scheurman (2001) would be reluctant to use VFT in favor of real world experience.

Field trips are hailed as promoting active learning, encouraging student collaboration, and ensuring the relevance of higher education instruction (Lopushinshky & Besaw, 1986; Klepper, 1990). From the students' perspective, Orien and Hofstein (1991) reported that students' attitudes regarding field instruction reflected at least five dimensions which can be viewed as positive goals or outcomes of field instruction. They include the following: disciplinary learning, individualized learning, a social aspect, an adventure aspect, and an environmental consciousness aspect. Thus, the reasons why field instruction can be effective are complex, yet simple: the content of the field trip is just not available in the classroom, and, both instructors and students believe a field trip adds value. Cassidy and Mullen's (2006) research identified ways in which field trips can facilitate the development of natural learning impulses (Bruce & Levin, 1997, 2001). They are inquiry, communication, construction and expression.

Specifically applied to VFT, Cassidy and Mullen (2006) found that VFT student websites are designed as inquiry environments which provided choice, links to various artifacts, concept and content modules and open-ended questions. In addition, they noted the media can facilitate communication through document preparation, such as emailing, video-conferencing and teaching media. The natural learning impulse of construction was catered to through the content-related activities that provided learners with chances to engage with the material while creating their own interpretation of the content. Lastly, the VFT facilitated expression by providing questions and multiple formats to spur the formation and expression of personal views. The views could be expressed online, in email, discussion boards and audio-conferences, or within their own classroom setting.

For any educational innovation to succeed, the instructor needs to perceive that there is considerable benefit to implement VFT into the learning environment (Tearle, 2004). The

teacher must weigh the pedagogical benefits against the technology obstacles. Technical hiccups can occur in any innovation implementation. Access to equipment must be negotiated prior to instruction. Time, effort, and energy will be required from the teacher to implement the new teaching medium. Computer connections go down and the servers can crash. Thus, an instructor using a VFT may need to provide alternate activities to the VFT, should technological arrangements prove unworkable.

### **Summary**

Field trips add value to learning if they are done properly. They allow students to apply learning to what they experience in a setting outside the classrooms. If done effectively, they can greatly enhance student engagement in the learning process. However, field trips pose some practical problems. Instructors must arrange permissions and, for each semester, work out many details. In addition, some students with mobility or other issues may not be able to participate.

A reasonable substitute or additional option is a Virtual Field Trip. A VFT can take students beyond the classroom walls and into some of the world's most iconic locations for rich and immersive learning experiences, requiring no permission slips. Students can tour the national archives, see how an egg farm works, explore NASA's Goddard Space Flight Center, or hear from the President of the United States. Discovery Education Virtual Field Trips are unique and educational, and can be free. If taking students to a particular museum is not an option, an instructor can check to see if the exhibits are online. Some websites have virtual tours and others have photographs of the exhibits and additional information. Teaching is about creating, innovating and cultivating curiosity. Virtual technology can be a teaching resource to help inspire students to achieve more.

Virtual Field Trips allow flexibility for students to learn anytime and anywhere. They provide flexibility to do more with student-directed learning where multiple forms of nontraditional assessment are essential to demonstrate knowledge, creativity, collaboration, persistence and design thinking, in ways instructors cannot capture with traditional forms of assessment. Experience working with technology, even in the form of virtual experience, can help increase engagement and career readiness.

Upon reflection on one's own learning, many of the critical events that were etched into our own memories occurred not in the classroom, but on a field trip. Reading, lab activities and lectures are informative, but the experiences in the field made it real and effective, and felt more authentic. Throughout the literature reviewed here, authors expressed positive opinions of the rewards of field trips in both an active field trip and VFT format. In some respects, a virtual field trip had a number of advantages over the physical field trip from a teacher's perspective. One advantage is that there is no need to worry about transport time, delays, or bad weather interfering with a VFT. The VFT can provide access to a greater range of experiences (Mitchell & Wesolik, 2002). Further, a VFT learning experience can be heightened by complementing it with the simultaneous integration of other field, laboratory and library data (Qui & Hubble, 2002).

### **Chapter 3: Conclusions and recommendations**

Throughout the research literature examined here, many conclusions, deductions and recommendations can be made regarding the value and importance of field trip experiences to adult learners in continuing higher education is. As stated early on, findings show that students learn a lot from field trips. Field trips can provide enrichment, contribute to the development of students into civilized people who possess more knowledge about art, have stronger critical-thinking skills, exhibit increased historical empathy, display higher levels of tolerance, and have a greater taste for consuming art and culture (Bowen, Greene, & Kisida, 2014). Field trips can provide opportunities to overcome anxieties promoted by negative stereotypes and build confidence in student professional and personal abilities (Sharplin, 2010). Field trips can provide an alternative mechanism for promoting familiarity with a particular trade in a cost- and time-effective manner.

Field trips can be used as an educational resource to develop attitudes and aptitudes in students from various educational domains and majors. Field trips can be also used as a possible strategy to promote innovation in higher education and achieve a positive change in teaching and learning processes (Vasquez Salazar, 2014). Findings present field trips as a tool that allows students to complete their coursework in a more significant and participative manner. Being in contact with the educational reality, the learner is transformed, humanized to reinvent themselves as persons and future teachers (Vasquez Salazar, 2014).

Planning a field trip can require special challenges such as medical emergencies, equipment and transportation issues, keeping students interested and involved and enforcing rules for acceptable behavior at the site. The literature provides much advice regarding considerations and accommodations the instructor needs to take when planning a field trip.

Students need preparation for the experience, and engagement while on the trip. In addition, there must be carefully planned reflection after the field trip is over. Providing the necessary tools, structure and organization to help create a valuable learning experience is essential (Beiersdorfer & Davis, 1994).

The Spicer and Stratford (2001) study mentioned earlier sought to investigate student reactions to the use of specifically-produced Tidepools VFT. The study found that while the students were genuinely excited and engaged by the VFT, they were unanimous in the view that digital field trip should not replace the active field trip. The students stated that they want VFTs to be used alongside of the actual field trip and not as an either/or situation (Spicer & Stratford 2001). Orion and Hofstein's work (1994) also supports the idea that VFTs be used alongside real life experiences. They suggest that the high level of novelty experienced on the field trip can interfere with the learning process. They identified three types of novelty as geographic, psychological and cognitive. They reasoned that if students are in an unfamiliar place, an unfamiliar social setting and are involved in unfamiliar academic work, it is less likely they will have a meaningful learning experience. Rather the students will need time and exposure to all three novelty aspects of the trip before real learning can take place. From a student's perspective, a high quality VFT can facilitate the development of prior knowledge schemas and allow for practice of observation skills thus ensuring that the maximum learning value is gained from the actual field trip. Further, students can opt to make repeated visits to a VFT which also allows the individual to control their own learning (Nix, 1999).

Upon evaluation and critique of the existing literature featured, there is further research to be conducted to truly understand what adult learners in higher education perceived as the value of field trip experiences. The literature and resources clearly show the strengths, value, and

importance of field trips and VFTs. They improve adult learners' knowledge of and ability to think critically, create greater tolerance for differing views, aid in the learning of the discipline, provide individualized learning, socialize the student into the field, provide adventure, and foster environmental consciousness. Whereas a few of the literature research showcased weaknesses (the instructor needing to adjust to a changed role, travel costs, equipment needs, medical emergencies, and special challenges and accommodating students with disabilities), the benefits are clear.

What may be missing from the literature research is an experimental comparison of student learning in a classroom versus a field trip or VFT. Are there benefits to one experience versus the other? A sample selection of convenience would be to divide up the class into two groups and have half go on the physical field trip while the other stayed in the classroom and took the VFT. A follow-up feedback report from each student could ask what their perceived value where from the experience. A "worksheet" could be distributed to assess comprehension of the material learned. Further research could continue based on the information the adult learners provided and to identify what steps should be taken to correct any weaknesses, gaps or muddy points for further field trip experiences.

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