The Benefits of Filed Trip Strategy at Junior and Senior High Schools: An Overview

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Abstract

This reseach studied about the beneficial of educational Field Trips at secondary and high school level in Pekanbaru, Riau Province Indonesia. The respondents of this study were the students and Pre-service teachers of English program of both government and private schools. The ideas and views of students and Pre-service teachers were sought out regarding the benefit of educational field trips at secondary and high schools level. To achieve the purpose of study two questionnaires was design as research tool separately for teachers and students. sixty respondents including 10 Pre-service teacher of English program and 50 students were randomly selected. The questionnaire was used as a research instrument which was consisted of 25 items, collected data was analyzed by using simple percentage method. The findings for each statement were made. On the basis of findings, the conclusion was drawn. Majority of the respondents had a view that educational field trip is helpful to explore students's learning experience. Therefore, a large number of respondents opinioned that educational field trip positively affect students' creative thinking and practices in learning.

Keywords: Field Trip, Strategy, students, Pre-service Teacher

Introduction

School field trips have become considerable attention and it is more popular since recent years especially in Indonesia. it is indicated Field trips are appropriate for all grade levels of students. They is an opportunity for students to visit cultural resources which they may not have known existed. They provide a shared experience for all students. They provide an entrance into an unfamiliar world to which the students may be able to introduce their parents. Field trips extend the resources available to students in the classroom. They expand learning by giving the student access to the real thing. They illustrate and permit experience with what has been read about, seen on television or computer software. Teachers include field trips in their units of study for this purpose. Field trips are linked to the classroom because they are contextualized within the classroom curriculum. Teachers choose from museum programs and

exhibits to expand and reinforce desired concepts. However, this study was conducted to affirm teachers' and students' perceptions in the context of applying field strip strategy in teaching or learning writing descriptive text.

Educational field trip provides an opportunity for social training of the students because field trip is taken in large group and students" are included from different social backgrounds, it gives students a chance to get to know each other and interact in a more relaxed environment Jamilu and Salihu (2012). It is a great way to communicate difficult information. Through educational field trip most of the concepts and phenomena may clarified, understood be easily and assimilated and with the help of this, good deal of energy and time of both the teachers and students can be saved. It is clear that going on a field trip is a wonderful way to extend a learning experience in such a way that the students not only understand the concept, but also understand how it connects to their world. Field trip is also vital for students to have a chance to view and explore historical places and different social institutions.

Educational Field trips has great potential to positively affect students' learning (Farmer, Knapp and Benton, 2007; Flexer and Borun, 1984; Lisowski and Disinger, 1991; Mackenzie and White, 1982) and students' attitudes towards their education (Hannon and Randolph, 1999; Michie, 1998; Price and Hein, 1991; Wendling and Wuensch, 1985). Field trips provide real world settings in which challenged students are to apply knowledge learned in the classroom. Many students enjoy the less formal setting in which the learning takes place (Braund and Reiss, 2006; Falk, 1983; Flexer and Borun, 1984). As a result, these students may become more excited about their school subjects (Michie, 1998; Storsdieck, 2001). Though field trip itself tends to be shortterm outing, the effects of this trip on students may continue for many months to years after the field trip (Farmer, Knapp and Benton, 2007; Mackenzie and White, 1982).

Field trips help students to connect their own experience the concept, as Orion (1993) found that field trips can facilitate the construction of abstract concepts by providing the setting for long term memorized episodes. Meredith et al. (1997) and Behrendt Marc and Franklin (2014) also point out that students who directly participate during а field experience generate a more positive attitude about the subject. Dole and Sinatra, (1998) The more authentic the mental exploration of the stimuli (e.g., testing, questioning, observing and making self-explaining, mental notes, and critiquing of one's previous understanding, the more previously constructed schemas are retrieved and the more complex they become. Scarce (1997) posited that field trips offer enriching experiences central to successful learning because they are both

personal experiences and lived social events that become -ways of knowing. According to Wright (2000), Orion 1993, Noel 2007).since experiential learning activities allow students to participate in activities that help link theory and practice, they become excited and motivated to learn. spurring on new experiential activities. It can be defined that field trips fasilitate students to extend their learning experience. Otherwise, it is not only undestant the concept, but also understand how it connects to their word. Raiszadeh and Ettkin (1989) illustrated that field trips provide useful learnin experience for students. Tal and Morag (2009) described field trips as student experiences outside of the classroom at interactive locations designed for educational purposes. When students have an interest, they tend to learn the subject materials better (Haw-Jan "John" Wu (2009)

In addition. Shakil. Faizi and Hafeez (2011) argue that educational field trips give students the opportunity to have first-hand experiences and to explore world. It helps students to interact with what they are learning. Field trips allow for actual tactile experiences, students are able to see it, manipulate it or participate in it physically. Further, Shakil, Faizi and Hafeez (2011) pointed out that the purpose of education is to develop the knowledge, skill or character of students. Thus the education is the process of learning and knowing, which is not restricted to our school or textbooks.

Myers and Jones (2009) describe that educational field trips should be designed around specific educational objectives. Furthermore, Shakil, Faizi and Hafeez (2011) argue that educational filed trip, is a progressive method of learning by which the student goes through the necessary learning experiences under the leadership and guidance of the teacher. It is helpful in developing the complete personality of the students like their physical, mental, social and emotional development. Educational field trip gives students the opportunity to have first-hand experiences and to explore world. It helps students to interact with what they are learning. Victor (1965) asserts that —the field trip should refer to any learning activity that is carried on by the children as a group outside the classroom.

Aggarwal (2003) describes that educational field trip is also helpful for the teachers to clarify, establish, co-relate and coordinate accurate concepts. interpretations and appreciations and enable them to make learning more effective, interesting, concrete, inspirational, meaningful and vivid. Thus it can be said that educational field trip is helpful in completing the triangular process of learning that is motivation, clarification and stimulation.

From the previous research above, it can be defined that educational field trip provides an opportunity for social training of the students because field trip is taken in large group and students" are included from different social backgrounds, it gives students a chance to get to know each other and interact in a more relaxed environment. Hence, Field trips also offer many direct teaching and learning benefits, providing including hands-on a experience, creating a laboratory for business students, making a relevant, life experience that's concrete real otherwise not available in class. These interactions teach them how to behave in different settings. It will also help to control or show balanced emotions in different type of situations and it means that students who were taught with Educational field trip have higher performance than those taught with lecture technique. However, It is not restricted students to learm more about textbook in the classroom. Otherwise, teachers create any learning activity that is carried on by students as a group outside the classroom. Therefore, it is expected that a teacher-led school activity outside the classroom in which students are expected to learn.

Method

This research applied qualitative research design with case study. In this case study, document analysis from the respondents responses. (Yin, 1994) describes that a case study is an empirical research that examines contemporary phenomena in a real- life context. Hence, Case studies involve intensify analyses on people, communities, or organizations. In addition, (McDonough and McDonough, 1997) claimed that case studies provide opportunities for the researcher to obtain holistic and in-depth views on research problems, and can facilitate the depicting, explanation understanding, and of problems or contextual situations of the research. In case studies, documents and data are examined in detail in order to explain the phenomena within the data. Based on the data, the researcher can produce a theory and will be able to test this theory.

Creswell (2012) The open-ended responses, however, permit us to explore reasons for the closed-ended responses and identify any comments people might have that are beyond the responses to the closed-ended questions. In addition, the responses are detached from the contextthe setting in which people. Furthermore, Rahardjo (2017) defines that a case study is a series of scientific activities that are done in an intensive, detailed, and in-depth manner on a program, event, and activity, whether on the level of individuals, groups of people, institutions, or organizations, to obtain an in- depth knowledge on the event. Usually, the selected happening (which is then called a case) is an actual (real-life) event that is taking place, not something that has already taken place (Rahardjo, 2017:3).

The questionare used in Shakil and Hafeez's study in 2011was adopted for this research because of its suitability to the context of this study. Thus questionnare had modified by the researcher based on the need of the study.

The questionnaire used in this study was divided into three categories, which were labeled as Part-1, part-2, part-3 part 4 with and part 5 in closed-ended questions. The item format for type in questionnaire was developed on a threepoint scale which asked individuals to respond in series of statements by indicating whether the incidents in question take place 'Strongly Agree', agree', 'slightly agree', 'disagree', and 'strongly disagree.' The Part-1 type questionnaire for students consisted of 10 statements, which aimed to determine how much field trip are helpful in effective learning. The Part-2 type questionnaire for the teachers, on the other hand, consisted of 9 statements, which likewise aimed to determine how much field trip promotes the required qualities among students. The Part-3 type of questionnaire for the students consisted of 6 statements respectively. These questionnaires were aimed at determining how much fieldtrips are beneficial for society and individuals.

Before collecting the data, the researchers met the respondents who have been chosen as the sample. Then, gave them closed-ended questionnaire, and asked them to complete it. The researcher distributed the questionnaire in English and they have to respond all questions using likert scale. Then, analyzed the information, and proceed to the data for purpose of the research. Creswell (2012) asserts that using a narrative passage to state the findings of the analysis is the most frequent approach in this step. Therefore, the researcher described every theme, supported it with excerpts of the students' responses from the questionnaire and interpreted the data

Finding and Discussion

In finding, the researcher described the process of calculating and presenting result of the data. It was intended to answer the questions of the study. In finding, the researcher described the process of calculating and presenting result of the data.

The data from the quistionnaire in this study has been analyzed with the results as shown in the following table:

No	Questions	Frequency					
	Field Trip are Helpful for affective Learning	Strongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentage
1	Field Trips give me opportunity to adopt varius strategy of learning	0	1	16	30	3	74%
2	Field Trips provide self experience & observation to increase Knowledge		0	2	18	30	89.6%
3	Field Trips allow me to express my thoughts more clearly and openly		1	7	25	17	83.2%
4	Field trips contribute to my learning experience positively			8	28	14	82.4%
5	Field Trips help me to solve many problems in the classroom		3	6	22	19	82.8%
6	Field Trips help me to explore my learning experience		3	3	31	15	85.5%
7	Field Trips make me understand the importance of learning from sharing real-world experiences.		6	7	23	10	70%
8	Field Trips enhance my ability to think critically and creatively			4	35	11	82.8%
9	Field Trips enhance my ability to think logically		2	3	28	17	84%
10	Field Trips give me the opportunity to relate my own experiences to the topics covered in the course		7	4	30	9	93.2%

Table 1: Students' Perception of Fiel Trips

Based on the results presented in table above, it shows that field trip are helpful in effective learning. However, majority of students (93.2%) think that Field Trips can give them opportunity to relate their own experiences to the topics covered in the course. From students' responses above were in line with several researchers findings. Oreon (1993) found field trips can facilitate that the construction of abstract concepts by providing the setting for long term memorized episodes. It means that field trips contribute o students' learning experience and help them to relate the concept of what they have learnt in the classroom. Behrendt Marc and Franklin (2014) also point out that students who participate directly during a field experience generate a more positive

attitude about the subject. The students also demeed that Field trips also can help them to explore their learning experience (85.5%). Besides, (84%) agreed that field provide self experience trips and observation in increasing their knowledge, this finding supported by Nabors et al., (2009) claims that students on field trips sharpen their skills of observation and perception by utilizing all their senses. Likewise, (82.8%) believe that Field trips contribute to their learning experience positively, beside, it also can help them to solve many problems in the classroom and enhances their ability to think critically and creatively. On the other hand, there were (70%) of them consider that Field Trips make students understand the importance of learning from sharing realworld experiences.

No	Questions			Freq	uency		
	Field Trips Promote Qualities among Students	Strongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentage
1	Field Trips encourage me to develop myself as a team member		2	4	30	14	82.4%
2	Field Trips anable me to increase self confidance			3	19	28	90%
3	Field Trips sharpen my discussion/ interaction skills		1	2	35	12	83.2%
4	Field Trips make me feel more involved with the class		0	3	35	10	80.9%
5	Field Trips help me to promote sense of discipline		2	6	29	13	81.2%
6	Field Trips help me to develop leadership qualities		0	1	35	17	86.4%
7	Field Trips allow me to communicate more effectively than traditional face-to-face meetings		1	3	35	10	80.9%
8	Field Trips allow me to comment and discuss ideas with m group more efficiently as compared to traditional classes.			2	37	11	83.6%
9	Field Trips make me convidence in sharing idea to others in discussion			1	39	10	83.6%

 Table 2. Students' Perception of Field Trips

As shown in Table 2, the data analysis indicates that the highest persentage of agreement goes to the terms "Field trips encourage them to increase self confidance (90%). (86.4%) who stressed that Field Trips help them to develop leadership qualities and makes them feel more involved with the class, in line with this shakiland Hafeez (2011) claimed that It helps to develop the ability of obligation and leadership qualities in students. Furthermore, (83.6%) of students agree that Field Trips allow them to comment and discuss ideas with their group more efficiently and make them convidence in sharing idea to others in discussion. Morever, Shakil and Hafeez (2011) again asserted that Educational field trips provide an opportunity for social training of the students because field trips are taken in large group and students are included from different social backgrounds, it gives students a chance to get to know each other and interact in a more relaxed environment. However, it was only (80,9%) of them believed that Field Trips make them feel more involved with the class as well as allow them to comment and discuss ideas with m group more efficiently as compared to traditional classes.

 Table 3: Students' Perception of Field Trips

No	Questions	Frequency						
	Benefits of Field Trips for Society and Individuals	Strongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentage	
1	Field trips help me to show better perfomance in studies			1	40	9	83.2%	
2	Field Trips help me appreciate the relevance and importance of what they have learnt in the classroom			1	37	12	84.4%	
3	Field Trips allow me to meet the need of higher education		6	9	25	10	70.8%	
4	This field trips are relevant to my study at writing descriptive text			2	12	36	93.6%	
5	Field trips help me to know the importence of histrical places and cultural heritage				35	15	86%	
6	Field Trips ancourage me to participate efectively during the trip			1	30	19	87.2%	

Table 3 represents the ideas of students that how much field trips are beneficial for society and individuals.according to the data shown in the table, (93.6%) of students reveal that This field trips are relevant to their study at writing descriptive text. Likewise, (87%) of them Field Trips ancourage them to participate efectively during the trip. Further, (86%) from the respondance believe that Field trips help them to know the importence of histrical places and cultural heritage this point related to Eric Powell who describes that field trips are

vital for seeing and understanding the things. Students to have a chance to view and explore historical places and different social institutions. They provide an opportunity for the students to visiting a new place, meeting new people and Field Trips help them appreciate the relevance and importance of what they have learnt in the classroom (84%). Then (83.2%) of the students fostering better perfomance in studies. Nevertheless, Nevertheless, it was only (70.8%) of the students reported that Field Trips allow them to meet the need of higher education.

Table 4. Teachers' Perception of Field Trips

N0	Questions	Frequency					
	Field Trip are Helpful for affective Learning	Strongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentage
1	Field Trips give students opportunity to adopt varius strategy of learning				2	8	96%
2	Field Trips provide self experience & observation to increase Knowledge				1	9	98%

3	Field Trips allow students to express their thoughts more clearly and openly		1	9	98%
4	Fieald Trips contribute to students' learning experience positively		3	7	94%
5	Field Trips help students to solve many problems in the classroom		1	9	96%
6	Field Trips help students to explore their learning experience		0	10	100%
7	Field Trips make students understand the importance of learning from sharing real-world experiences.		2	8	96%
8	Field Trips enhance students' ability to think critically and creatively		2	8	96%
9	Field Trips enhance students' ability to think logically		3	7	94%
10	Field Trips give students the opportunity to relate their own experiences to the topics covered in the course		1	9	96%

The analysis revealed that teachers (100%) held the strong view that Field Trips help students to explore their learning experience, the same is the case with Scarce (1997) claimed that field trips are experiential, authentic social events that create a new way of knowing an object, concept, or operation. In terms of Field provide Trips self experience & observation to increase Knowledge and allow students to express their thoughts more clearly and openly This finding also coincided Hutson, T., at all. (2011) who stated that Field trips offer a unique

opportunity for students to create connections, which will help them gain understanding and develop an enjoyment of learning. On the othr hand, teachers' (96%) believed that Field Trips enhance students' ability to think critically and creatively and allow students to express their thoughts more clearly and openly. Thus, supported by Catherine E. Boyle, (1995) that Students are encouraged to think critically an creatively beyond the parameters of the classroom environment engage with the theoretical knowledge that they have mastered.

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NO	Questions	Frequency					
	Field Trips Promote Qualities among Students	SStrongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentag
1	Field Trips encourage students to develop themselves as a team member				5	5	90%
2	Field Trips anable students to increase self confidance				4	6	92%
3	Field Trips sharpen students' discussion and interaction.				2	8	96%
4	Field Trips make students feel more involved with the class				2	8	96%
5	Field Trips help students to promote sense of discipline				3	7	94%
6	Field Trips help students to develop leadership qualities				3	7	94%
7	Field Trips allow students to communicate more effectively than traditional face-to-face meetings				4	6	92%
8	Field Trips allow students to comment and				1	9	98%

Table 5: Teachers' Perception of Field Trips

	discuss ideas with their group more efficiently as compared to traditional face-to-face classes.				
9	Field Trips make students convidence in sharing idea to others in discussion		3	7	94%

The table above shows that the mayority of teachers (98%) believe that Field Trip allows students to comment and discuss ideas with their group more efficiently as compared to traditional faceto-face classes. This finding is in keeping with the outcomes of the study by NRC (2009) illustrated that students who acquire hands-on, authentic experience may develop curiosity and interest, leading to a desire to learn more, observation skills improve. Social skills develop as the students share perceptions and knowledge with others. However, it is indicated that (96%) of teachers considered out that field trip allows students to sharpen their discussion and interaction. Therefore, it anables students to increase self confidance. This finding is similar to the outcomes of recent study by Shakil and Hafeez (2011) pointed out that Educational field trips are very important because they are a way to bring the students closer together

However, from the results of teachers' resposes (94%) claimed that

field trip not only could help students to promote sense of discipline and develop leadership qualities but also could make students convidence in sharing idea to others in discussion. This findings also related to the outcomes reserach by Shakill and Hafeez (2011) demonstrate that the positive benefits derive from field trips are hands-on, real-world experiences, quality of education, positive attitudes to science and motivation towards the subjects, improvement of the socialization between students, which would impinge on the classroom, and development of rapport between teachers and students. Likewise, (92%) of teachers' perceptions that it allows students to communicate more effectively than traditional face-to-face meetings. Therefore, it anables students to increase self confidance as (Kisiel, 2003; Rennie, 2007) found that students are better observers, interact more frequently, discuss the concepts, and ultimately develop more connections between the concepts and the experience.

No	Questions	Frequency					
	Field Trips are Beneficial for Society and Individuals.	Strongly Disagree (1)	Disagree (2)	Slightly Agree (3)	Agree (4)	Strongly Agree (5)	Percentage
1	Field trips help students to show better perfomance in studies				4	6	92%
2	Field Trips help students appreciate the relevance and importance of what they have learnt in the classroom				2	8	96%
3	Field Trips allow students to meet the need of higher education				3	7	94%
4	This field trips are relevant to students' study at writing descriptive text				0	10	100%
5	Field trips help students to know the importence of histrical places and cultural heritage				1	9	96%
6	Field Trips ancourage students to participate efectively during the trip				3	7	94%

 Table 6: Teachers' Perception of Field Trips

The above table shows that it is found related to the dominant of teachers'

belief that Field trips are relevant to students' study at writing descriptive text.

For the reason that, during the field trips students have concrete learning the experiences in a real situation which can improve their writing on the descriptive text. Therefore, It is crucial that educators make connections between what students are being taught in their classrooms and the real world. The respondents also deemed that Field trips help students to know the importence of histrical places and cultural heritage (96%), In line with this. Eric Powell (https://www.slideshare.net/aneeshashokan 545/online-assignment-39405965 describes that field trips are vital for

students to have a chance to view and explore historical places and different social institutions. Inspide of (92%) of the teachers agrred on Field Trips could help students to show better perfomance in studies. However, teachers on the whole believed that Field Trips benefits for sociaety and individual.

Reference

- Aggarwal, J.C. (2003). "Essentials of educational technology teaching learning. Innovations in education", Vikas publishing house pvt Ltd.
- Braund, M. and Reiss, M. (2006). Towards a more authentic science curriculum: The contribution of out-of-school learning. *International Journal of Science Education*, 28 (12).
- Catherine E. Boyle, (1995) "Seeing Gender in Everyday Life: A Field Trip to the Mall" 25 Teaching Sociology 150, 153.
- Dole, J. and Sinatra, G. (1998). Reconceptualizing change in the cognitive construction of

Conclusion

The results of this study showed that Field Trip is an effective strategy in enhancing students' knowledge in Social Studies. Interestingly, after the field trip, students were much more confident in dealing with exploring their idea and sharing idea to others in discussion in the classroom. It is indicated that Field Trip could increase students' motivation. Likewise, in terms of promoting students' quality, it seems that students can interact to each others. However, Field Trips allow students to comment and discuss ideas with their group more efficiently as well as they are involved in the class. The other most significant is The field trip acted as an empowering tool for students and assisted them in gaining ownership over future learning experiences. Therefore, the mayority of teachers and students believe that Field Trips are not only helpful in effective learning, but also promotes the required qualities among students and beneficial for society and individuals.

knowledge. *Educational Psychologist*, 33: 109-128.

- Farmer, J., Knapp, D., & Benton, G. M. (2007). An elementary school environmental education field trip: Long-term effects on ecological and environmental knowledge and attitude development. *The Journal* of Environmental Education, 38(3).
- Flexer, B. K., and Borun, M. (1984). The impact of a class visit to a
- participatory science museum exhibit and a classroom science lesson. *Journal of research in science teaching*, 21(9).
- Falk, J.H. (1983). Field trips: a look at environmental effects on learning. *Journal of Biological Education*, 17

Glenn, J. L. (2000). Environment-based education: Creating high performance schools and students, Washington, DC: The National Environmental Education & Training Foundation)

- Haw-Jan "John" Wu (2009). Using field trips to enhance student learning in operations management: Literature Review and Field Observations. California State University San Bernardino, CA. California Journal of Operations Management © 2009 CSU-POM)
- Hutson, T., Cooper, S., & Talbert, T. (2011). Describing connections between science content and future careers: *Implementing Texas* curriculum for rural at-risk high school students using purposefully-designed field trips. Rural Educator, 31, 37-47.
- Jamilu, Ja'far and Salihu (2012) "Effects of Educational Field Trips on Academic
- Perfomance of Junior Secondary School Social Studies Students in Kaduna Statenigeria
- Kisiel, J. (2003). Teachers, museums, and worksheets: A closer look at learning experience.
 Journal of Science Teacher Education, 14, 3–21.
 Krepel W. L. & Duvall, C. R. (1981).
- Krepel, W. J., & Duvall, C. R. (1981)."Field trips: A guide for planning and conducting educational experiences", Washington, DC: National Education Association.

Lisowski, M. and Disinger, J.F. (1991). The effect of field-based instruction on student understanding of ecological concepts. *Journal of Environmental Education*, 23(11).

Mackenzie, A.A. & White, R.T. (1982). Fieldwork in geography and long-term memory structures, *American Educational Research Journal*, 19(4).

- Michie M. (1998). Factors influencing secondary school teachers to organize and
- conduct field trips. *Australian Science Teachers Journal*, 44(4).

Nabors, M.L., Edwards, L.C., & Murray, R.K. (2009). Making the case for field trips:What research tells us and what site coordinators have to say. *Education 129*(4), 661-667.

National Research Council (2009). Learning science in informal environments: People, places, and pursuits. Washington, DC: The National Academies Press.

Online Journal of Distance Education-TOJDE October 2014 ISSN 1302-6488 Volume: 15 Number: 4 Article 2 <u>https://files.eric.ed.gov/fulltext/EJ10928</u> 06.pdf

Orion, N., "A Model for the Development and Implementation of Field Trips as an Integral

Part of the Science Curriculum," School Science and Mathematics, Vol. 93(6), 1993, 325-331.

- Price, S. & Hein, G.E. (1991). More than a field trip: Science programmes for elementary school groups at museums. *International Journal of Science Education*, 13(5),
- Price, S. & Hein, G.E. (1991). More than a field trip: Science programmes for elementary school groups at museums. *International Journal of Science Education*, 13(5),

- Raiszadeh, F. M. E. and L. P. Ettkin, "POM in Academia: Some Causes For Concern,"Production and Inventory Management Journal, Vol. 30(2), 1989 37-40.
- Rennie, L.J. (2007). Learning outside of school. In S.K. Abell and N.G. Lederman (eds.), *Handbook of Research on Science Education*. Mahwah, New Jersey: Erlbaum.
- Scarce, R. (1997). field trips as short-term experiential education, *Teaching Sociology*, 25: 219-226.
- Sinatra, G. (2005). The —Warming Trendl in conceptual change research: The legacy of Paul
 R. Pintrich. *Educational Psychologist*. 40: 107-115.
- Stake, R. 1995. The Art of Case Study Research. Thousand Oaks, CA: Sage.
- Sorrentino, A. V., & Bell, P. E. (1970). A comparison of attributed values with

empirically determined values of secondary school science field trips. Science Education,

- Tal, T., & Morag, O. (2009). Reflective Practice as a Means for Preparing to Teach Outdoors in an Ecological Garden. *Journal of Science Teacher Education*, 20(3), 245-262.
- Victor, E. (1965). *Science for the Elementary School*. New York: Macmillan.)
- Wendling, R.C. &Wuensch, K.L. (1985). A fifth-grade outdoor education program: expectations and *effects*. *Journal of Interpretation*, 10(1).
- Wright, T.S.A. (2000), No more pencils...no more books? Arguing for the use of experiential learning in post secondary environmental studies classroom. *Electronic Green \ Journal*, 1: 1-8.