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RESEARCH ARTICLE

Using Social Media to Reinforce Environmental Learning And Action-Taking for School Students

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Abstract

Environmental experiences often engage learners and create an intention to act, which is then not followed through once the learner is removed from the environment. This study utilized an exploratory, interpretive framework with younger primary school classes to investigate if transfer of learning from field trip experiences *in* and *about* the environment into action *for* the environment could be reinforced by social media interaction between the environmental educator and the class through a blog. Field observations, teacher interviews, student focus groups and analyses of students' work indicated that the blogs were well-received by teachers and students and did foster continued student engagement. The social media interaction only facilitated student action-taking if there was a shared philosophy between the environmental educator and the teacher with respect to the aims of the experiences and the value of action-taking. The importance of teacher attitudes in determining the value of social media is discussed as well as the benefit of dialogue among environmental educators and classroom teachers with respect to the philosophy of environmental learning experiences.

Keywords**:** social media, environmental learning, action competence

Introduction

Many teachers engage their students in experiential learning in nearby local environments. Often these teachers partner with passionate, knowledgeable outdoor and environmental educators to provide experiences that can foster knowledge and attitudes of caring in students. Such experiences can enhance students' knowledge and affective responses to their environment (Ballantyne, Fien, & Packer, 2001; Smith, 2007), and engage them in issues related to that environment (Bogeholz, 2006; Jensen & Schnack, 1997; Rickinson, 2001). Studies have shown, however, that teachers often lack the knowledge, time or motivation to help their students translate their environmental learning into action-taking towards resolving environmental issues once back in the classroom (Ballantyne, Anderson, & Packer, 2010). This problem has also been identified in free-choice learning environments such as museums or eco-tourism experiences in which learners make commitments to take action on environmental learning at the time, yet often fail to do so after returning to their daily routines (Ballantyne & Packer, 2011).

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The question is how to capitalise on the enthusiasm and commitment engendered during the field experience? One suggestion is to reinforce learning and commitment to act through using social media. This article examines the role of experiential learning in the environment outside the classroom for primary students, and reports on a study that tested the use of blogging to reinforce students' dispositions towards action taking for the environment.

Learning experiences outside the classroom

Environmental educators have emphasised the value of providing learning experiences in the environment for enhancing student learning (Ballantyne, et al., 2010). Lucas (1979) first proposed a triumvirate strategy for environmental education that comprised education in, about, and for the environment. Experiences in the local environment are seen to provide cross-contextual, holistic learning (Rennie & McClafferty, 1996) and relevance and connections to community for students (Gruenewald, 2003). This connection to students' lives and their communities has been argued to be a foundation for students to care for and affiliate with their local environments (Kola-Olusanya, 2005; Smith, 2007).

However, as Ballantyne, Anderson and Packer (2010) note, whilst the importance of these learning experiences has been well researched, there is much less evidence about what constitutes effective teaching strategies for these experiences. Moreover, experiences that lead to new knowledge and positive attitudes with respect to the environment, do not necessarily lead to more environmentally-friendly behaviour (Kollmuss & Agyeman, 2002). That is, knowledge and experiences are a necessary precondition for motivation to act for the environment, but without reflection, commitment and skills to act (Jensen & Schnack, 1997), action on the basis of a brief educational experience may not occur (Storksdieck, Ellenbogen, & Heimlich, 2005). As action-taking for the environment is a key goal for environmental education (Birdsall, 2010), this is a cause for concern. The aim is for students to take action as a means to develop action competence, not simply to take action for action's sake (Jensen & Schnack, 1997).

Many environmentally-focused programs offered to schools engage students in a short-term experience in the environment, usually mediated by an educator other than the classroom teacher. Knowledge and attitude development are likely student learning outcomes. In some cases students may be engaged in brief environmentally-friendly activities such as tree planting or litter pick-up, but these would not be regarded as genuine student actions for the environment if they are not student-driven (Jensen & Schnack, 1997). Further student action based on learning in the environment may then depend on how the teacher follows through on the students' experiences once they are back in class. Barriers to further student action include a lack of teacher knowledge, time and/or motivation (Ballantyne, et al., 2010).

There is little research documenting follow up efforts in environmental education by teachers with the notable exception of a recent study that examined student success rates at completing follow up tasks after a residential earth education program with upper elementary students (Felix & Johnson, 2013). This study found that students were far more likely to complete individual actions after the experience in classes where there was a high level of teacher initiated follow-up activity than in classes with a low level. They attributed the differences to teachers' differing levels of knowledge, support and resources to facilitate follow up activities. They recommend that program developers and providers need to give more attention to supporting follow-through if the outdoor learning is to be internalized by students.

This problem has been characterised as a lack of reinforcement of those developed environmental attitudes once the learner has left the scene of their learning (Ballantyne & Packer, 2011). Without such reinforcement, the sense of commitment to act seems to wane. How then to sustain this commitment when the educator responsible for the environmental learning experiences is no longer in touch with the learners? Educator follow-up visits may be valuable but are typically problematic for outdoor and environmental educators as they are preoccupied offering their experiential programs to subsequent classes. Even if time is set aside, follow up visits are typically time-consuming as they involve a lot of travel time for short visits to scattered schools.

One possible solution for this dilemma is to keep the learners in touch with that educator, and promote reflection and reinforcement of environmental messages, through the use of social media. Many children are familiar with the use of social media through sites such as Facebook and Twitter, and recently schools are more commonly using blogs to communicate student ideas and achievements to their community and other schools (Sheko, 2011). Indeed, action facilitation through the use of social media has recently been shown to be highly successful during the so-called Arab Spring. Agyeman (2006) highlights the possible roles of blogging as action-taking around environmental experiences. For technologically-literate children, blogging may empower them to have their say on environmental issues (Tsevreni, 2011), even for quite young children (Mackey, 2012). A recent study by Robelia, Greenhow and Burton (2011) indicated that young people networking through Facebook spurred participants to learn more about climate change and to take action to limit its impact. Russo, Watkins and Groundwater-Smith (2009) have described how social media both engaged and gave agency to young people in learning about cultural contexts.

The affordances of social media are tempered by social and technical challenges. Many teachers are not as technologically-literate as their students and shy away from using social media with their classes. Additionally, issues remain about access to hardware and internet speeds to facilitate easy use in the classroom, and about accessing social media sites in schools for cyber-safety reasons. A recent study by Yocco et al (2011) concluded that the use of technology in free-choice learning environments is dependent on the user's perception of ease of use and their underlying attraction to technology. When these factors were favourable, their study found that potential did exist for deeper knowledge and attitudinal development, which could lead to action.

This study explores the potential of social media to reinforce environmental learning and action-taking in a Learning Experiences Outside the Classroom (LEOTC) programme based in New Zealand and offered under the auspices of the Ministry of Education (Te Kete Ipurangi, 2012). The programme is run by the Te Kauri-Waikuku Trust (TKWT), which offers 2-4 hour learning experiences in natural environments near the schools. This research involved four primary classrooms in three schools who used blogs to reinforce environmental learning towards action. Blogging has previously been shown to be effective in enhancing learning with New Zealand children (Wolbers, 2007).

The study drew on experiential learning theories (Jensen & Schnack, 1997; Kolb, 1984) that posit that experiences that are actively reflected upon can lead to understanding and action. An intervention was used to facilitate this learning process, underpinned by the use of blogs as a social media tool. Two core research questions guided the investigation of the environmental education experiences for these classes:

1. What factors facilitated the transfer of learning from the field trip experiences *in* and *about* the environment into action *for* the environment after the trip?

2. To what extent can explicit follow-up activities utilizing social media interaction facilitate this transfer of learning?

METHOD

This study utilized an exploratory, interpretive framework employing multiple qualitative data collection methods including, observation, teacher interviews, student focus groups and analysis of student work. The three authors reviewed the data separately before comparing their findings and developing a final analysis of the data. The triangulation of multiple data sources and parallel analyses by three investigators aimed to increase the trustworthiness of the findings (Shenton, 2004).

Recruitment and Program Characteristics

'Primary schools that had participated in the TKWT field trips previously and planned to return in the subsequent season were offered the opportunity via email to participate in the study. Experienced schools were chosen to enable a focus on the trip experience and the transfer of learning rather than on the logistics of organizing a field trip. Four public school classes volunteered to participate: a class of five-year olds from one school, a class of 7-8 year olds from a second school, and two classes of 7-8 year olds from a third school. Each class participated in a 2-4 hour field experience in a locale within a short (< 1 hour) bus trip of their school. The program for each school was unique but all of them shared a similar structure and process as follows:

• The TKWT Educator (the third author) met and worked with each teacher before the trip to explain the nature of the trip and to choose program goals, locale and activities relevant to the class curriculum.

• The overall trip structure involved parent volunteers working with groups of 4-7 students to move through series of hands-on activity stations in a natural area. Each station had explicit written instructions and relevant equipment for the parents and students to do the activity. Activities involved appreciation or discovery in nature (i.e., experiencing smells, looking for insects), ecosystem knowledge (i.e., identifying plants) or investigations (i.e., measuring pH or water flow rates). The TKWT educator conducted a large group introduction and final reflection, and ensured that the small groups were on task and moving through the stations smoothly.

• Each teacher received the standard TKWT resource manual defining a wide range of relevant pre-trip and post-trip activities and resources that teachers could use with their classes.

• The researchers (the first two authors) met with all of the teachers to explain the research procedures and arrange for school, teacher and parent consent.

• The teachers received a brief, prescriptive handout defining three reflective follow-up activities which they were asked to complete with their classes. Students were to:

(1) complete a map of the place they explored on the outdoor experience, including pictures, words and/or data from the experience. The aim was to help them conceptualize the place as an ecosystem and integrate the activities as one experience.

(2) consider how their everyday actions might impact on this ecosystem. For example, they might discuss/investigate how their use of water at home or school might impact on a nearby stream or forest if that was the focus of their outdoor study.

(3) decide on and implement specific actions for the environment at school or home based on student interests.

These follow-up activities were to occur over three weeks and in each case the class would post comments on their learning and/or pictures of their work on a class blog. The TKWT educator would provide reinforcement by commenting and sharing her reflections on their work posted on the blog in addition to posing follow-up questions to the class relevant to their posts.

Trip Observation & Teacher Interviews

The first author observed all three programs in their entirety and took field notes during the experience that were compiled immediately afterwards. He interviewed each teacher at school three to four weeks after the trip. The interviews were semi-structured and open ended covering topics such as: teacher perspectives of the strengths, weaknesses and student learning from the trip; descriptions and perspectives on their implementation of the pre-trip and follow-up activities; descriptions and reflections on the implementation of their class blog and social media interaction with the TKWT educator; and teacher attitudes toward and experience with technology and social media. The interviews were recorded, transcribed, and coded for key ideas separately by the three authors. The three sets of codes were then compared and discussed to arrive at the final themes and findings.

Student Focus Groups

The first author conducted multiple, short, focus groups of 3-5 students each from the participating classes. All of the students present that day with signed consents participated, representing more than three-quarters of each class. During the focus groups, the students shared a piece of art they had completed with respect to the trip and were asked to recount the trip experience with as much detail as possible. They were asked to describe what they liked and did not like about the trip, what they learned, their perspectives on the follow-up activities and on interacting with the TKWT educator through the class blog. They also discussed their interest in and access to computers and social media at school and at home. These focus groups were recorded and the first author synthesized the key points of each group, which were reviewed by all of the authors in generating the final themes and findings.

Student Work and Class Blogs

The authors tracked the class blogs and the number and nature of interactions between the teacher, students and the TKWT educator over the three week period. Students' work was posted to the blogs and screen capture was used to hold permanent photographs of the blogs, which were then reviewed as a part of the data analysis.

FINDINGS

The program experiences for each class were unique and divergent, thus each one is first described as a unique case. These descriptions are followed by an analysis of the key factors that influenced the transfer of learning, and the extent to which explicit follow-up activities and social media interaction facilitated transfer of learning into action for the environment.

Case study - Discovery School Program Experience

This was a small class of fifteen, five year olds (first year at school) who typically had below average skills for their age and came from a low socioeconomic urban neighbourhood. Their teacher was experienced and in mid-career, though prior to this year had always taught older elementary students. She had been on TKWT trips previously with older students.

The class completed a separate environmentally-oriented unit in the classroom before this program, but otherwise distinct pre-trip activities were not used to prepare them for the field experience because the teacher wanted the trip experience to engage the students and initiate the learning.

The trip had two aspects: a short walk (30 minutes) down a fifty meter nature trail adjacent to the school, followed by a brief bus trip and a walk through a large, nearby forest (90 minutes). The small groups of children completed a series of sensory/discovery activities in each locale (i.e., listening to nature, finding bugs, leaf rubbings, etc.). The two locales were used to help them connect the small nature fragment at their school to the larger forest. They attended and explored well given the very short attention spans typical of their age group.

The class completed all of the follow-up activities and blog posts. Ultimately, the students generated the idea of encouraging others to pick up rubbish around the school and the teacher facilitated the class to create a brief video educating others in the school on this topic. The first author visited after the trip and walked with the students on the school nature trail. They were spontaneously commenting without prompting on the importance of picking up rubbish. This suggested that these children had developed some action competence appropriate to their age level through the progression of activities.

A blog was already in use as a central organizing tool in the class curriculum prior to the trip so its use in this program fitted smoothly into classroom routines. Although this was only the second year this teacher had used a class blog, she had embraced it wholeheartedly, seeing educational benefits for the children. For this age group, the teacher posted on the blog in response to the students' comments and work.

There were six posts to the blog by the class connected to the trip activities. There were six comments/questions from the TKWT educator and eight from other classes, school staff, parents, etc. Based on the focus group discussions, all of the children were very enthusiastic about the blog and were very proud of having others comment on their posts, though most could not articulate exactly who commented or the nature of the comments. The teacher stated that the blog visuals were particularly helpful for them, and blog comments from others legitimized their experience to an external audience. She said, "they like the comments and they like knowing there are comments". She indicated that although they could meaningfully understand and discuss the blog and the comments at a given point in time, their recall was negligible when recounting the content of the blog to others later.

Case study - Wetlands School Program Experience

This was a class of 7-8 year olds of average, though diverse, academic abilities from a mixed rural/suburban, middle socioeconomic area. The school had been on TKWT trips previously and three classes from the grade level went on this trip to a wetland, but only one, a new first year teacher participated in the research.

In contrast to the Discovery School teacher, this teacher conducted a number of pre-trip activities with the students (watching videos, doing research, writing, etc.) focused on the students learning about wetlands and defining their expectations for what they would see on the trip.

The trip locale was a pond/wetland and the small groups moved through the activity stations across a 90 minute period while also taking time to stop and explore between the stations. Overall the children were enthusiastic and well-behaved, staying with their adult helpers and focusing on the environment around them.

Upon their return, the class completed and posted the prescribed follow-up activities plus others, though they did not actually implement an action plan on how to help the wetland. Activities included writing a story from the perspective of a creature, video interviews, maps, posters, and Wordles about ways to help a wetland. During the focus groups, numerous children shared their ideas from the Wordles on actions they could take to help a wetland. They seemed to have internalized these ideas and were invested in some of them. The school term ended that week and despite significant class dialogue around the Wordles, in the next term they did not carry out any of their proposed actions. The teacher originally had the idea to have them raise and plant native seedlings to be put into a nearby wetland. Overall, this class learned *in* and *about* wetlands, and identified their ideas *for* action, but did not follow through to develop action competence.

Although this was the teacher's first year teaching, she had initiated a blog from the beginning of the term and it was a regular part of class routines. She worked with the blog with the class every day or two. She was comfortable with blogs and social media from her teacher training and personal on-line interactions. Overall, the students made 32 posts to the blog related to the program. The TKWT educator responded with comments and questions to 13 posts, and the class responded to her posts twice. There were also nine comments from the students from their homes, mostly from a group of four students who were particularly engaged in the blog.

There was universal enthusiasm shown by all of the students for the blog. They were proud of it and could recite exactly how many comments they had received during the school term. They liked interacting with the "scientist" (TKWT educator) through the blog. Some could remember the nature of her comments, while others did not. They valued her positive feedback on their work and that she was able to ask them questions and share information. They saw her as an "expert", and having this sort of external audience seemed to reinforce their efforts.

Case study - Interrelationships School Program Experience

Two of the four classes of 7-8 year olds from this school agreed to participate in the research and all four went on the trip together to a stream and forest area. This school was in a high socioeconomic suburban area and had a particularly strong focus on environmental and sustainability education, including a part-time teaching specialist in this area. These teachers had undertaken a similar trip the previous year. The participating classes varied in student composition: one of the teachers had a class with learning and behaviourally-challenged students, and the other teacher had a class with advanced students.

The trip was designed to initiate a science unit on interrelationships and little was done before the trip as the teachers wanted the trip to engage the children and get them excited about the topic. The trip involved two and one-half hours of activities in a natural area including a range of sensory, knowledge-based and investigative activity

stations along a stream (90 minutes). An additional sixty minutes in the afternoon was devoted to a nature walk with a series of stops to examine features of interest.

Unfortunately, the teacher in the challenged class did not meaningfully undertake the follow up or blog activities with her students, reporting that other curriculum priorities and pressures focusing on teaching basic literacy and math skills took priority during the follow-up period. She also said that she had never used a blog previously, hence there was an initial learning curve that created a particular barrier to using a blog when there were other immediate demands.

The advanced class wrote about the trip on the day after their return, and continued over the next three weeks to discuss and utilize trip experiences to reflect on their reading and writing work in class. They wrote a report on an animal and discussed it in the context of interrelationships and trip experiences. They also completed art and craft projects relevant to nature relationships and Maori stories about the locale they visited.

They did not complete the prescribed follow up activities but connected the trip experiences to learning themes and activities in the classroom as an auxiliary rather than a central focus. At the end of the unit, the teacher facilitated an exhibition of their art and writing pieces at the school, and parents made a gold coin donation to view their children's art. The money was used to sponsor a hectare of pest control of invasive mammals near the trip locale. Overall the trip experiences were used to support learning *about* the environment and the class took action *for* the environment, but this action was teacher generated and led, and identical to the action her class had done in previous years, therefore would have contributed little to developing the students' action competence.

The teacher posted a few of the students' writings to the blog two and half weeks after the trip when the lead teacher for the grade urged her to do so. Immediately a number of kids became interested and started posting on the blog. Another teacher and the TKWT educator commented as well. Approximately six students became very engaged, tracking the blog and posting while others varied in levels of interest. Although focus groups were not held with this class, the teacher reported that her students were very interested in how many comments their posts attracted from others. In total there were 15 posts and 20 comments, and in most cases comments by students added a new idea about the trip or nature. Six of the 35 entries were made by the TKWT educator. Students did not reply to her questions and overall there was little interactive dialogue on the blog. The flurry of activity was just before the school term ended and a two week break. The posting continued for about three weeks after their return and then dwindled away.

The teacher reported that the blog was not initially a priority for her largely because she had concerns about encouraging children to spend time on computers when she viewed screen time at home as frequently an unhealthy activity for children. She also had not used a blog previously and had an initial learning curve, though in retrospect she said it was not difficult. Through the experience, she observed the enthusiasm of the students for the blog and recognized educational value in it that shifted her overall attitudes to seeing potential to use a blog with the class in the future.

Key Themes across Class Experiences

Teacher Educational Philosophy. The teachers' educational philosophies played pivotal roles in how the trip experiences were integrated into the classroom and the learning that resulted. The Discovery and Wetlands teachers seemed to share with the

TKWT program a view of environmental education as being in, about and for the environment, in contrast to the Interrelationships teachers who placed it within a science discipline framework. The former teachers focused on the trip experience through a topic based approach and developed concepts and skills within the topic focus. In contrast, the Interrelationships teachers focused directly on curriculum concepts, and only drew on relevant trip experiences to inform class activities. The Advanced Class teacher at the Interrelationships School noted:

Within our reading programme we've been looking at plants and wildlife and bugs. So lots of their follow-up activities and discussions have been 'Oh what's the relationship between that? What's the effect if there were no bugs?... We've done writing…Talking about what relationships did we see [on the trip] and yeah, what relationships did we know.

A second difference in philosophy among the teachers was in their prioritization of environmental education outcomes between nature appreciation and discovery, ecological concept and content learning and taking action for the environment. The Discovery teacher prioritized the affective and action competence elements, ensuring that the students generated ideas for taking action:

We did do a brainstorm… about what we can do to care for the environment. We came up with all these ideas. So yesterday when I took them on a nature trail, we'd just talked about the things that we could do to look after [our environment]. And they were stunned that there was rubbish there [on the trail], so I was kind of like 'well this is easy, we'll do this one for now.

The Wetlands teacher focused on the affective and cognitive domains, and the Interrelationships teachers on the cognitive domain. Although the TKWT program, and many outdoor and environmental education organizations, explicitly value teachers defining the trip experiences and priorities, the experiential organization has an educational philosophy that may or may not match the teacher's philosophy for the role of the trip experience in relation to school learning. These findings indicate that while experiential educators and teachers typically discuss the goals and activities for a field trip, it is also important that they discuss the philosophy of how learning on the trip is to connect to learning back at school.

Social Media Usage and Student Interaction. Three of the four teachers viewed the use of the blog as a valuable asset with respect to the classroom learning by the final interview while the Challenged Class teacher did not significantly utilize it and hence had limited comments on its value.

Since the Discovery teacher had first year students with limited skills, she viewed the blog usage and interaction with the TKWT educator as a means of providing her reminders and a structure through which to transfer the learning from the trip back to the classroom. She and the children used the blog to help them recollect and reflect on past experiences.

Yeah, the kids go back and look at things [on the blog] all the time. They'll often go back and look at the photos or they look at video, they're really into videos – particularly if they're in it.

She felt the blog reinforced positive student learning in that they knew others were viewing their work. It legitimatized their efforts at school in the broader world. Even though these students had difficulty recalling the nature of the blog content, she reported that they highly valued comments, saying, "they like [the comments]. They'd say 'Wow! We've got a comment' and 'Wow! Who is it from?' and they want to know".

The Discovery teacher noted that she could have asked the students the same questions as those posted by the TKWT educator, yet she felt they had more weight with the students if they came from an outside person through the blog. For five year olds, the blog value appeared to be in communicating content and expectations to the teacher and in giving positive feedback to the students.

For the seven to eight year olds in the Wetlands School, the TKWT educator was a "scientist", even though she had not identified herself with this title during the trip experience. They seemed to use this title because it connoted her expertise with respect to learning in nature. While some students could identify and discuss her questions and comments, many simply recalled she was commenting and providing positive feedback. As one group of students in the Wetlands class commented:

Interviewer: Do you like the blog?

Yes… I do… (many voices).

Interviewer: Did you get any comments about the wetlands on the blog?

1st student: We got lots. [Our teacher] was talking to a scientist on the comments and the scientist was commenting about all our things. We can show you how many comments we have had and we've only started, let's say a month. We've probably got 250 from New Zealand…

2nd student: [The scientist] said that we should do more research and she said good job.

This feedback in itself was a valuable contribution to their blog and their view of the importance of this work at school. The TKWT educator's questions on the blog were used by the teacher to facilitate discussion during the follow-up period. The Wetlands teacher provided her view of the blog:

The kids love seeing their work online, absolutely love it. The only thing with this age-group is, they can comment on their own work but… going on and publishing something themselves; takes a lot of time… And the comments from [the TKWT educator] were really cool, and the kids loved seeing their comments. But when she commented we'd answer it as a class. So they'd sit down and they would give me their ideas and then we'd comment back.

Both the Discovery and Wetlands teachers provided feedback that it was important for the TKWT educator to keep her comments and questions brief, and on one topic, so as to maximize their value in class discussions.

For the advanced class at the Interrelationships school, the children's enthusiasm and engagement once the blog was introduced propelled the class to embrace it, along with the teacher. Initially this teacher was opposed to the blog:

I almost think kids almost spend too much [time on computers]... Like my kids, if it's sunny in the morning I'm like "No you can't go on the computers. Go outside and play outside, or play a game with each other and talk to each other." So I didn't want [the blog], yeah, I was probably a little bit more hesitant towards it.

However, this teacher's attitude changed through the experience. She came to value it, saying:

… because [the TKWT educator] is answering questions and asking them as well, it kind of has that mysterious appeal, but it hooks [students] in. Like because they're into technology and just the discussions that come, because [the TKWT educator's] knowledge of relationships in [the trip locale] and what not, is so much greater than ours… And they like being able to view it, like usually if you've got things up in your

class, they wouldn't go to [other classes] and read what their work is – yet on the blog they would, and it really gives them an audience for their work.

It was noteworthy that the students in this class continued to use the blog into the new term for a couple of weeks, though use eventually fell off. For this class, the blog seemed to function as a place for the class and outsiders to view and give feedback on their work. The blog was largely used by the teacher to reinforce their reading and writing rather than to transfer or integrate learning from the trip into the classroom. This appeared to be a teacher choice based on her educational philosophy.

IMPLICATIONS

Both practical case studies and academic research reports have supported the value of follow-up experiences in integrating trip experiences for the benefit of student learning in, about and for the environment. These class experiences reinforce the research findings but suggest it is not a simple process to fulfill this transfer of learning on a broader scale across classrooms. Unless environmental educators and teachers share a similar conceptualization of the role of trips in curriculum, little follow-up with respect to action-taking may occur. Trips may become simply a fun self-contained learning experience. Clarifying educational philosophy with the teachers beforehand is important. There is also a contradiction between environmental educators aiming for transfer of learning and action-taking while simultaneously encouraging teachers to dictate their own aims for the trip experiences. Participatory discussions and training involving teachers and environmental educators would seem particularly valuable. Unfortunately in many contexts due to financial limitations and practical pressures, environmental organizations and schools frequently prioritize content and logistical discussions over broader consideration of trip roles and aims.

Even when there is agreement on the role of the trip, it still is difficult at a practical level for teachers to implement follow-up activities regarding action-taking, as they often involve hands-on experiences and/or small group work and logistics that need more time, effort or volunteers. Environmental educators typically do not have the resources to provide this additional help for the teachers. The teacher is left to her or his own devices while feeling pressure to move onto additional curriculum outcomes, sacrificing the actual doing of the actions, yet action-taking is a key element of developing action competence (Jensen & Schnack, 1997). If resources are constrained, should organizations cut back on the number of programs they offer so as to direct resources to the follow-up action-taking back at school? These are hard decisions and funding organizations often value number of children participating over the longer term learning impacts.

These dilemmas generated this research on the use of social media as a means to provide additional support and resources to the classroom teacher in a more feasible way from the environmental educator point of view. The blogs were very successful in facilitating student engagement as students particularly appreciated the positive feedback and external recognition of their work. All students valued the blogs regardless of the teachers' attitudes. However, the use of the blog to facilitate transfer of learning and support student action-taking depended on the educational philosophy of the teacher. Social media can have a valuable educational role only if teachers are comfortable with its use and have a clear conception of how to facilitate its use in the classroom. In-service training can play an important role in suggesting the benefits and answering the how-to questions, but it must be participatory in nature if it is to influence those teachers who focus on the negative aspects of technology in children's lives. Social media provides positive opportunities for environmental educators if they

employ it with careful consideration and thoughtful discussion with teachers. Students greatly value and benefit from appropriate social media interaction, the challenge is bringing teachers to this realization and helping them gain the skills to utilize it.

SUGGESTIONS

The environment is an issue with lack of attention. Necessary interest and importance should be performed, in fact the number of these and similar studies should be increased. Similar related studies should be spreaded throughout Turkey and should be implemented in evey possible universities. In order to provide environmental literacy and education for sustainable development, firstly the current situation shall be determined and according to the situation hands-on programs in appropriate content should be prepared. In this context, especially like Higher Education Council (YÖK), Ministry of National Education (MEB) and RESEARCH (TUBİTAK) scientific and program improving organizations should look after the issue. There must have been at least one mandatory environment class at universities in every faculty in one semester. Especially teachers of future generations must be very good environmental literate individual. Thus, there should be not the only one environment class especially at Education Faculty, there should be supported by more environmental education lessons, practices and projects. In addition, public environmental seminars and trainings must be provided.

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RESEARCH ARTICLE

Öğrencilerin Çevresel Öğrenme ve Eyleme Geçmelerini Pekiştirmede Sosyal Medyanın Kullanımı

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Özet

Çevreye yönelik deneyimler öğrenciler ve onların harekete geçme amaçları ile ilişkillidir. Bu araştırma ilkokula devam eden öğrencilerin çevre ile ilgili alan gezilerinde edindikleri bilginin transferinde ve sosyal medya aracılığıyla pekiştirilmesinde, çevre eğitimcisi ile sınıf blogu arasındaki etkileşimi değerlendirmeyi ve keşfetmeyi amaçlamıştır. Saha gözlemi, öğretmenle röportaj, öğrenci odak grubu ve öğrencilerin çalışmalarının analizi ile öğretmen ve öğrenci tarafından iyi ve geçerli olarak belirlenen bloglar çevreye yönelik öğrenmede etkilidir. Sosyal medya, çevre öğretmeni ve sınıf öğretmeninin felsefelerini paylaştıklarında ve benzer hedef ve amaçlar geliştirdiklerinde öğrenmeyi kolaylaştırıcıdır. Öğretmen tutumunun önemi, sosyal medyanın değerinin belirlenmesinde yaşanan çevre eğitimcisi ile sınıf öğretmeni arasındaki çevresel öğrenme deneyimlerinin felsefesiyle ilgili iletişim için önemlidir.

Anahtar Kelimeler: sosyal medya, çevresel öğrenme, eylem yetisi

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