



Emirati Primary Pre-service Teachers' Experience of Thematic Teaching

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Abstract: Thematic teaching, a common form of integration where the connections between subjects are explored and emphasized, is acknowledged internationally as a beneficial tool for student learning. This is in contrast to the traditional way in which many school systems set up their curriculum, with each subject being taught as separate unit from the other with no commonalities. Government primary schools in Abu Dhabi, the largest emirate of the UAE, are undergoing rapid educational reform in an attempt to transform and improve the schooling system. Educators and administrators here have tentatively 'tested the waters' with thematic approaches, which are implemented in some schools and not in others. There are signs that this may be changing with the introduction of the latest curriculum version which outlines both mandatory and suggested themes to be taught. Pre-service teachers at the training college where this research was carried out receive training to teach using the thematic approach. We analysed their experiences in two ways; by examining their reflective coursework essays on the implementation of thematic units in primary schools, and by interviewing them upon return from their major final year internship. It was found that although they express views in strong support of integrated teaching in their essays, they generally struggled to put this into practice during their internship. We explore possible reasons and give suggestions to reduce the chasm between theory and practice.

Keywords: Thematic, Integration, Pre-service teachers, internship experience

1. Introduction

At the teacher-training college where this research took place, pre-service teachers study a variety of courses ranging in scope from English, maths and science subject knowledge, to specific teaching methodology courses, in order to be awarded a four year Bachelor of Education degree. Among the courses studied in the final year of the program is 'The Integrated Teaching of English, Maths and Science'. This fifteen week course is designed to build upon the previous curriculum studies courses. Before enrolling, all students must have studied at least eighteen credit hours in courses focusing on teaching English, maths and science to primary aged children. They have also taken a similar number of credit hours in various courses falling under the umbrella of education studies. These courses involve intensive training on the methodology and pedagogy underpinning the Abu Dhabi Educational Council (ADEC) curriculum, as well as international best practice trends and standards in the areas of planning, delivery, assessment, classroom management, inclusive practices and child development theories.

The integrated course takes a cross-curricular approach to learning, requiring students to collate the knowledge and skills acquired through their previous curriculum courses, and apply them in an integrated fashion to a variety of tasks. It is mainly project-based course centred on developing thematic units appropriate for primary age students. The pre-service teachers participate in a variety of lectures and workshops as they examine the philosophies of an integrated curriculum. They are given opportunities to analyse samples of thematic units and integrated lessons, experience collaborative planning while developing their own thematic unit, conduct research into the issues surrounding integrated learning, and present on a variety of outlying aspects related to the implementation of such units, such as classroom setup, management, communication and community involvement.

Achievement of the course learning objectives is assessed in a variety of ways. The pre-service teachers are required to develop and resource their own thematic unit, integrating learning outcomes from ADEC's English, maths and science curricula. They also create and deliver a multimedia presentation explaining the considerations and support needed to implement such a plan. The presentations highlight the teaching and learning strategies utilized by the thematic plan as well as the assessment tools or strategies used to measure student learning. They also complete a series of reflective essays which focus on different topics related to thematic learning.



2. Conceptual Framework

Integration, where the links between subjects are forged and explored, rather than being treated as discrete units, has been a popular educational tool since as far back as the 1970s. Then, authors Pumerantz & Galanto (1972) talked of integrated teaching as allowing for students to proceed at a student-led pace, dictated by students' experiences, skills and interests. The most common method of implementing integrated instruction is via the thematic unit, in which a common theme is studied in more than one content area (Barton & Smith, 2000). By doing this, the correlation between the way information and data are organized to create meaning and the thinking and learning process are emphasised (Brooks & Brooks, 1993).

Clark (1997) was a fierce proponent of integrated teaching and postulated that one of the main advantages of this system was that it was essentially learner-centred. He was an advocate of organizing curriculum as much as possible to model normal thought processes: "The curriculum must be organized systematically to reflect the natural process of intelligence/thinking/learning, to demonstrate the inter-relationships among subjects, and to allow students to construct their own meaning" (p. 35). Clark speculated that many educators feel resistant towards implementing an integrated curriculum based on their "outdated assumptions about human nature and the innate capacities of children" (p. 36). He attributes a studied drop in creativity in young children between the ages of five and seven to their schooling experiences, asking the rhetorical question: "what happened to [their] innate capacity?" and concludes that "upon entering school, the child is programmed for fragmented, linear, sequential thinking that is antagonistic to the integrated, innate capacities for thinking and learning with which they are innately endowed" (p. 37). In further support of an integrated approach, he argues that teaching this way cultivates connections between classes, which is in contrast to the traditional teaching approach wherein classes are isolated, allowing little integration between them. "Often, teachers seem to wear blinders, remaining unaware of what is happening beyond their classrooms, and the students learn to view each class as an unrelated, separate entity" (Clark, 1997, p. 633). Hayes (2010) suggested that thematic teaching could be described as either "a 'poisoned chalice' to corrupt the sanctity of subject divisions and impose a modern version of project work on unsuspecting teachers and learners" or "a welcome flash of warm sunlight beaming through the dark clouds of curriculum prescription and government 'recommended' teaching methods." (p.1)

Other researchers add to the list of factors in support of thematic approaches to teaching. an increase in student involvement due to hands-on, concrete, meaningful experiences (Bergeron and Rudenga, 1993), co-operative relationships between teacher and student are focused on and fostered, in order to encourage students and give them opportunities to be actively involved in all areas of thematic learning, such as selecting the upcoming theme together (Bottom and Sharpe, 1996). Alexander, Jarman, McClune and Walsh, (2008) described their thematic project experiences as embracing deep development provided potential for cultivating an ongoing awareness in pupils of critical literacy and scientific literacy.

Teaching using a thematic approach can facilitate learning by creating connections between ideas, making it easier for students to organize information and ultimately to understand concepts (Wurman, 2000). This is not necessarily easy. One challenge that teachers, particularly pre-service or novice teachers may encounter when initially beginning to teach using themes is that this methodology is most successful when implemented using inherently student-centred teaching strategies, rather than direct approaches or rote learning methods, with which some teachers are more comfortable. However, a study in Turkey (Dilek, 2002) showed that even when working within the constraints of a traditional, central, 'ministry-originated' curriculum, teachers were able to use their creativity to apply to themes, finding new roles from a thematic teaching approach based on pupil's skills, specific abilities and interests. Our conceptual framework also draws upon work by Parker, Heywood and Jolley (2012) who found a paradox between teachers' initial positive perceptions and their direct experiences of such practice.

3. Rationale

As discussed in our literature review, thematic teaching is increasingly being acknowledged in international academic circles as being a more beneficial method of teaching than a traditional subject-based approach. ADEC has been increasingly moving towards a thematic approach in its curricular documentation, and has over the past few years introduced suggested themes and some supportive thematic resources into



schools. The implementation of these has very much been at the discretion of the individual schools, and is largely dependent upon whether or not the administration of that particular school favours thematic approaches to learning and is willing to adopt their use as school policy. This year, the council has outlined mandatory themes which will soon be implemented across all schools. It is therefore critical that pre-service teachers are well versed in the subject, and as prepared as possible to graduate as teachers competent in using this approach. The success of the educational reform led by ADEC requires a new breed of teacher and a modern approach towards teaching, one where a far greater focus is on practical, hands-on, activities and student-centred learning, which are intrinsic components of thematic teaching.

Researching pre-service teachers' opinions of integration, and analysing their experiences of trying to implement thematic teaching during their internship is important because it gives valuable indicators as to how effective college courses have been in preparing the students for this eventuality, and additionally suggests how likely they will be to teach effectively using an integrated approach upon graduation. This enables the college to address its own strengths and weaknesses, on a micro-scale, since understanding their experiences allows educators to adapt their practices, as necessary, in accordance with findings. On a larger scale, the research sets a precedent as a study of implementation of thematic teaching by pre-service teachers in the UAE.

4. Methodology

This research explores six students' experiences of learning about and teaching thematic units by analysis of two data tools. The first is a short reflective essay and the second, a short interview. Both were conducted in English as this is the official language of the college, though for all of those interviewed, English is an additional language. Quotes extracted from the reflective essays and interviews have not been edited.

The reflective essay was written by the pre-service teachers during the integration course, where they reflected specifically on their opinions of a thematic approach to teaching, including whether they thought integrating subject areas has a positive or negative effect on student learning. Not only did these reflective essays allow the students an opportunity to demonstrate their understanding of the course material and express their blossoming views and opinions on a variety of aspects of integrated learning, but they also allowed the lecturer to tailor course material in a manner that supports student interests and needs. These reflective essays were analysed in this paper as an indicator as to the pre-service teachers' opinions, expectations and judgments before completing the final teaching practicum.

The second data collection tool, the interview, was carried out immediately upon the students' return from their ten-week internship. They were required to plan and teach a thematic unit for two to three weeks during their internship, which schools and classroom mentors were briefed on by the college prior to the internship. The students were asked to describe their experiences of thematic teaching with two simple, open-ended questions interview questions which were generated from the literature reviewed: "Can you tell us about forming links between your science, maths and English lessons? Can you tell us about your experiences of implementing a thematic unit?" These questions were first piloted on two other pre-service teachers who were not involved in the final study; adjustments were made on the basis of feedback from these. Responses were probed as necessary and appropriate. The content of the reflective essays was then compared with the interview responses given by the same individuals in an effort to identify the support and challenges encountered within the schools when attempting to implement this innovative approach to teaching. Codes were attached to phrases and sentences of the transcripts, and codes with similar labels were grouped as themes, a process which underwent a process of blind inter-coder reliability checking. The findings are presented as an examination of each of the six students in turn, comparing and contrasting their reflection and interview responses.

The pre-service teachers (PSTs) were selected on practical grounds such as availability, willingness and also from different internship schools to provide a variety of experiences. The interviews were audio-recorded, with permission, and later transcribed. All standard procedures with regard to the ethics of data collection and interview were undergone, i.e., both verbal and written permission were sought and obtained,



and the participant's right to strict anonymity and to withdrawal from the study at any time was clearly explained. All names referred to are pseudonyms.

5. Study Limitations

Limitations are potential weaknesses of the study that cannot be controlled. There may be some limitation in the fact that pre-service teachers' reflective essays form part of their assessment, which may influence the positivity of their responses. However, this is controlled in that we had asked for opinions of integration, either in support of, against, or a mixture of both, so that it would have been perfectly possible to gain full marks by detailing negative aspects of the strategy. The other possible limitation is of course that they are students on their internship, and not actually in their own classroom as novice teachers. So this data provides an indication, as opposed to a complete reflection, of the kind of teacher they will become upon graduation. Since purposive stratified sampling was employed to select the students, limitations due to age, etc were not applicable. The students had carried out a planning and micro-teaching exercise in college which, it was hoped, would aid their implementation of a thematic unit during their internship.

6. Findings

Amna

Amna reflects in her pre-internship essay that she was in support of thematic teaching because of its potential to allow students to explore topics more creatively, because she feels that:

Students use their high level thinking in this integration system.

She highlights the importance of team-work and collegiality for successful inter-subject connection, saying that there has to be:

Good relationships between teachers and I support the idea which is that it is essential for cooperation and agreement amongst their ideas.

Amna then goes on to reflect that the student-led autonomous opportunities which thematic teaching offers gives students a chance to choose the theme in some cases because thematic instruction aims to link the theme with the students' real-life.

In the Gulf region, student autonomy is not necessarily synonymous with, or compatible with, local culture and traditions (Anderson, 2010) so it is significant, and positive, that Amna mentioned this. The capacity of teaching thematically to offer real-life applications and bring meaning to life for students is one which is repeatedly emphasized in literature in support of thematic teaching (e.g. Contardi, Fall, Flora, Gandee, and Treadway, 2000). Her essay closes with her thoughts on the possibility of teachers themselves being overwhelmed by content knowledge demands, or perhaps for whom thematic teaching is simply so different from the tradition norms:

I have been curious about what will happen if teachers of different subjects cannot deal with how thematic instruction works.

In a reflective essay, she concludes optimistically that:

Applying thematic systems in the school professionally will lead to wonderful students' progress [sic]

Amna's interview upon returning from internship is far less optimistic. She found it difficult to teach all subjects while covering specific curriculum content the class teacher had planned for those weeks, expressing that this was in stark contrast to the previous, highly cushioned practicum experience the year before where,



We did only three lessons, we chose the easiest ones, what we know and what we like. But this year we have to do what they have to learn in these weeks.

This may have set the backdrop for her experience of thematic teaching as she admits that she had taught no specific theme,

... only English with Maths .. the teacher she said you can choose anything you want

Upon being asked again by the interviewer for specifics on how and if she had implemented her thematic unit, Amna seemed puzzled and asked:

Was this required from us from the internship book? Maybe I thought it's not important for me?

Two things can be drawn from Amna's response – one being that the reality and shock of full-time teaching diluted her idealistic views of the superiority of integrated teaching over traditional, and the second being that lack of clearly communicated internship requirements, or perhaps a perception of this, led to the omission of integrated teaching from her internship experience.

Mona

Mona also expressed high ideals of a thematic teaching approach in her reflective essay:

I believe that integration of subjects has great impact over students' learning.

Echoing the opinions of many proponents of integrated teaching, which Mona may well have come across while researching for the essay, she described how, as she saw it, integration:

saves time because joining different subjects leads the teachers to divide their time wisely based on students' needs in different subject areas.

This comment suggests that Mona had given thought to the ways in which time can be gained both in terms of curriculum coverage, and in the teacher's ability to spend more time addressing the needs of individual students. She went on to substantiate this with a personal experience from her third year practicum where she saw thematic teaching in action:

when I was observing a grade 3 teacher, she had a superior time management skill to cover the whole curriculum and to assess students' performance during class time.

Like Amna, from a combination of learning on the college course and her real life experiences, she showed in her essay an understanding of the ability of thematic teaching to relate concepts to students' real lives more readily than a traditional approach. The benefits to student learning of reinforcement of the same theme in different ways and in different subjects, even by different teachers, are often cited in literature (e.g. Barrentine, 1999). Mona showed that she had witnessed this herself, not with a theme but with reading skills:

To illustrate, when I was in practicum I taught grade 4 the skill of skimming and scanning of the main ideas and key words in a given text. In the same week, Arabic teacher taught them the same skill in Arabic. Dealing with same skills in different subjects helps the students to develop certain skills quickly and use the skills in the long term.

The confident, knowledgeable tone of Mona's reflective essay is in stark contrast to her interview responses. When asked about her experiences of teaching thematically, she answered honestly that:

I didn't do that, really. There is no link at all. Both I couldn't find them and I couldn't do it, I didn't do it. I didn't do anything between Maths and English, or science.

This was probed a little during the interview, and Mona then said that she had actually implemented an oceanic theme in part and that she did some sorting of the ocean animals with ocean pictures:

Yes there was some links with the theme and the Maths, but that was nothing to do with the science learning outcomes. I think it's not about the science itself.



She did not mention whether her class teacher was in support of teaching thematically, but since she was allowed to use an oceans theme to teach some English learning outcomes, it did not appear that this was an issue. Mona described using elements of the oceans theme in her classroom management strategies, saying for example that she used sea animal student groupings and reward charts. However, she could not see how to connect the oceans theme with the maths topics she had to cover, which were halves, addition and subtraction. These topics do not appear to be particularly difficult to integrate with English and science or the oceanic theme, and her reticence may suggest an underlying subject area weakness.

Another interesting observation is that given the propensity of 'oceans' to become a science topic, Mona was unable to see any linkage there. Like Amna, she also felt constrained by the science curriculum topic, matter, which had been earmarked for coverage during the period she was assigned to teach. This suggests to us that constraints of curriculum coverage are a particularly poignant issue for the pre-service teacher; hopefully one that can be overcome as a qualified teacher, since one would ideally look ahead at the year's topics and select those which thread together best as themes. In Mona's case, the class teacher had already covered content rich with plant and animal links that, with forward planning and school administrative support, could have been integrated into an 'Oceans' unit that encompassed all three subjects. The problem of Mona's apparent inability to see connections where we easily could was more problematic, and suggests that the college courses need to offer more opportunities for students to practice making links between subjects.

Aisha

Aisha listed numerous benefits of thematic teaching in her reflective essay. One such benefit was the opportunities it creates for lifelong and co-operative learning and promotion of a link between the two: One benefit is that integration in subjects prepares students for lifelong learning. As an example, this occurs in co-operative learning where students work together, discuss, share ideas, and this helps the students to build on their communication skills.

She shows a clear appreciation of the ability of integration to help students make connections between subjects:

One of the positive effects of integrating subjects is that the students will increase their knowledge and learn about the variety of topics because they will not only focus on one topic over the class period. Also it helps students to make connections among all the subjects. An integrated curriculum encourages making a connection between what the students study in real life experiences. For instance, often when students read a story, they make a connection about what they have read with something that happened in their real-life experience.

Aisha went on to describe an example of an integrated English and science lesson which she taught during her previous practicum:

I read a story for the children which is 'Jack and the Beanstalk'. Students went through the story by helping me in reading it and answering my questions. After that I brought some real beans for them to observe. Then, in science they grew the beans after I explained the steps for them. In this class, the students went through different skills such as reading, listening and learning new vocabulary.

It is interesting that Amna, like Mona, mentions examples of integration which she did in her previous, third year practicum, which was four weeks long, yet none in her longest, ten-week internship. This again is indicative that the full-time teaching demands and inability of the pre-service teachers to 'pick and choose' topics to teach may have played a prohibitive role in the teaching thematically in their internship. Aisha does say in her essay that in her experience so far, upon comparison of a paper where the teacher was using growing plants as a way of connecting with real-life,



to compare this situation in Abu Dhabi schools situation, I think that here they don't focus on thematic units, and from what I experienced in my practicum, is that in our schools the attention is given to the maths and English, more than science.

In Aisha's interview, she describes using an ocean theme (this appeared to be a popular theme!) which she admits was not connected to the curriculum, nor did it offer the opportunity to teach the curriculum:

It was about ocean theme, Under the Sea, it was not in the curriculum, but we saw opportunity for us to use it, so we taught them about how animals survive under the sea, even though it was not in the curriculum.

Although it was applaudable to be attempting theme coverage at all, choosing a theme based on the curriculum which should be covered is essential. This failure to do so suggests, once again, a partial lack of understanding of the purpose of thematic teaching. It may also be an example, as in the case with both Aisha and Mona, of their lack of confidence and/or lack of ability to make connections between subjects. It is possible that 'oceans' did indeed hold opportunities to cover the curriculum for Aisha's grade level, but that she was unaware of how to integrate the subject matter. On the other hand, it is never a good idea to force curriculum connections, particularly when this results in superficial coverage of the subject or coverage at an inappropriate level (Shanahan, Robinson and Schneider, 1995). Indeed, "if a unit does not allow inquiry into the real substantial issues of a discipline, it would be better not to integrate that subject matter into the theme" (p.719). Aisha concedes that there was a link between English and science for the 'oceans' theme, but "*not for the science in this curriculum*".

When probed about the science curriculum that she had to cover, she informed us that she covered two mini-topics, shadows of light and measuring temperature. We asked her if she was able to make connections between maths and science for these topics as there are many apparent connections. Aisha said simply that it was too hard to connect it to the ocean theme.

The interviewer asked about connection between subjects, but it was obvious that the theme had been chosen in isolation of inspection of the curriculum, making connections very difficult. It is unclear how much of this inability is due to the lack of skill on the part of the pre-service teachers, or due to a lack of self-efficacy partly attributable to their position as temporary teachers under the guidance of their dominant mentor teacher. Most likely, it is a combination of the two. On their college course, PSTs are strongly encouraged to examine science content closely for theme ideas, since it is normally easier to link maths and English into a chosen science topic, rather than the reverse. As mentioned earlier, choosing a theme based on wider examination of the entire year curriculum for all three subjects is ideal.

Karima

Karima in her reflective essay described integration as:

A new realistic and accessible model for teaching students which is joining the three main subjects maths, English and science ... in my opinion, integrating subjects actually has a strong positive and benefit side to student learning because of variety of reasons. First, learners can apply what they learn to other areas when the mind is still fresh, so the context will be more understandable.

This is a point often cited by supporters of integrated teaching, that rather than learning in neat compartments, the brain's connections can be 'fired' by the deepening of understanding by approaching this learning in different ways, across other areas (Beatty, 2009). She also witnessed some level of integration during her previous school practicum experiences in a very positive way:

In my experience I remembered one teacher having a class for three hours, she planned how to make the topic more interesting for them. The plan was integrating the three subjects 'maths, English, science' with giving sorts of creative activities. Such as, listen to a song, tangible games and



using computer, shared writing or reading and other exciting ideas. Meanwhile, teacher confirms that her students get the knowledge, experienced it, understand it and enjoy it at the same time.

Sometimes, however, the examples she gives to support her own ideas for why thematic teaching is desirable appeared to be a little unclear. For example, as an anecdote as to why linking subjects together is better than teaching in the traditional separate subject manner, she writes that:

In practicum I saw a teacher showing her students a video on how the plants grow, to confirm that they really learned, they integrated it with a science experiment. It was growing a plant together, here they are gathering knowledge and skills.

Karima seemed to have confused using a teaching strategy whereby the teacher provides multiple opportunities for students to show what they know in a variety of ways, with integrating subject areas through the use of a common theme. Karima doesn't give any explanation of how these activities link other subjects with science. This is suggestive of a somewhat shaky foundation of the principals of integration, which may be as a result of the exposure the students have had to the concept: one course in the final year of their degree.

Karima concludes her essay with three reasons in support of integration:

First, students can study subjects in a variety of areas and ways to learn. As a result, it scaffolds and promotes student's progress as they are focusing on a specific context. Furthermore, they will find students are more engaging and involved in your class.

She does not elaborate on why, or how they would be more engaged or involved. Her internship experiences are, once again, far less positive. She described teaching some lessons where the linkage between science and English was explored, such as:

Water plants in science, I demonstrate then give example and in English class they have to write a sentence about it.

This sort of curricular link, where the student is required to write a sentence about an activity they have just observed in science, is obviously not highly creative, and has the likely pitfall of superficiality, unless perhaps a particular aspect of sentence structure is being focused on. Karima did not actually adopt a theme, per se, but instead made some ad hoc connections between topics in science and English. Again, an appreciation of the need to link teaching and learning activities with learning outcomes from the curriculum appears to be absent. When asked whether she was able to forge links between science and maths she said:

No I think it is too hard, we only use pictures for multiplication and some problem solving. It is easy to link with the English, though we did some activities for adaptation, some models like the polar bear and how it adapts with the environment they have to write it on the card and then build a model.

Again, it is possible that this activity could have been, or had the potential to be, a well-integrated one. Unfortunately she is not able to elaborate on exactly what content or learning outcome was being taught in English, aside from an opportunity to write a sentence. The examples Karima has shared could easily become part of a theme, for example 'Endangered Species' which could connect with the polar bear's rapidly decreasing environment, but Karima did not seem able to make these connections.

Maha

Maha also recounts an experience of her third year practicum whereupon she observed the integration of science and English using the theme of butterflies. She observed, similarly to Karima, a science topic which integrates English by emphasising the vocabulary:

When I was in practicum, I saw my mentor teacher had integrated 2 subjects, science and English, it was one topic about the butterfly life cycle. She demonstrated how butterfly life goes on at the



same time she focuses on new words. It was amazing because students were so excited about the lesson and they played a game which was matching a word with appropriate picture for the butterfly life cycle, so they learn new words and the same time they memorise how butterfly life goes.

Certainly, vocabulary learning and use has some place in integration but there is an absence of any deep learning here, and once more, no integration with maths. Nonetheless, Maha considers herself a proponent of thematic teaching and argues that by using it,

Students will not get confused by focusing on different themes ... integration fosters skill developments in each subject. As an example, if a teacher uses integrated lessons, students will memorize new vocabularies and solve some math problems so both of these are skills and actually will develop.

Here again, she emphasises vocabulary rather than language skills. She goes on to draw the connection between integration and improving students' understanding:

Integration helps students to connect the concept and aspects under one theme which is good for brain and helps to create more connections. In conclusion, I believe in integrated subjects and how they develop students' ability and show their intelligence and skills in each subject.

Although her grasp of some of the foundations of integration are not as strong as they could be, she clearly believes in the benefits and worth of the philosophy. When asked in the interview about her experience of putting these beliefs into practice whilst on internship, Maha seemed puzzled and hesitated. The question was rephrased, and she answered, vaguely,

I remember something ... the science with maths ... but science with English? I can't remember.

She then went on to recollect using the book 'The Enormous Turnip' for an integrated lesson, the theme of which was unclear. She thought that the book was suitable for use to teach science:

Maybe because the Enormous Turnip was also about pushing and pulling .. but because of English they can remember what was related to science. Sentences and ordering in maths. I can't remember!

When asked to explain the links between this book and maths, she described involving the students in a whole class activity which involved pushing a ball off a desk, and then:

Like bowling – when they push the ball, they solve the problem on the ball which fell down.

Whether or not this was a genuine link was unclear as Maha was unable to recollect the details of the questions, but it appeared to be superficially connected to the text theme and not linked to any particular learning outcomes from the curriculum. A superficial handling of content through an ill-fitted theme was one of the concerns about integration raised by Barton and Smith (2000). Despite Maha's good intentions outlined in her earlier reflective opinions of thematic teaching and learning, the actual theme for which her choice of book was the vehicle for remained unclear – was it Push and Pull? Or was the theme the story book itself? Maha was unable to explain this, presumably because she did not know. Her reflections leaned heavily on the power of themes to link subjects and make connections, yet this vital element was missing from her own experience of implementing a theme in the classroom. In Maha's case, it seems that her lack of depth of understanding has played a large part in her inability to do this successfully.

Hind

Finally, we look at Hind. Hind also emphasized, as both Mona and Amna had, the links which integration can help students forge between classroom and real-life, and reflected very honestly that this was missing for her in her own schooling experience:

When I was a child, I could not see any link between what I am studying and my daily life. For example, I didn't recognize the benefits of knowing how to change km to miles, for example. However, now students can see the relationship between what they are studying and their daily life because of the integration unit.



This sentiment would seem to predict a teaching style for Hind which dynamically utilized a thematic approach. Indeed she appears to be quite passionate about the subject throughout her essay, going on to use the thematic unit which she developed on the course as a springboard upon which to extol its virtues, including address of different learning styles, as she explains:

Integrated units address diverse learning styles ... preparing for my integrated unit made me totally agree with that. In my plan, I was creating activities which suit different learning styles, which integrating subjects allowed me to do. It gave me time to add activities which teach some learning outcomes several times but for multiple learning styles. It will develop the students' independence too.

Hind's style of reflective writing stands out not only because of its tone of ownership, but also as one of authority. She goes on to explain how she feels that:

Having an interesting theme isn't the only factor of successful units. Learning and reading about integration is totally different to applying it. Though making my own integrated unit, the benefits of it became clear to me and I will try to use it, not because I have to, but because I believe in it.

She ends her essay rather dramatically:

This course has changed my opinion: integration has a huge impact on student learning.

The commitment that Hind appears to be professing towards teaching thematically is baldly contrasted later during her interview. When asked if she had been able to implement any themes into her teaching, she answered:

Not really. Maybe the writing ... no, not really. I can't remember to be honest.

This vagueness and haziness about a very recent experience was characteristic of both Hind and Maha's interviews, which could, perhaps, be partly be explained by a kind of end of term fatigue, but it may also point to an overwhelming misinterpretation of the issue. Upon prompting, Hind remembered something:

Oh – yes, the body parts. I did a measuring lesson for maths, and the students didn't know the body parts.

When asked if that was an example of a link between maths and science, she replied that she didn't know. She then showed a file of her work, which included some very nice resources to support what certainly was an example of grade appropriate integration between maths and science, linking the measurement of body parts to their name and function, such as the length of the students' hair, the width of their smile. The fact that Hind was not confident in explaining this, nor certain as to whether there was indeed a link, is concerning, and is again highly suggestive of a need for further practice at linkage between subjects, as well as practicing the creation of appropriate themes. Also worth considering is the mismatch between the vagueness of her interview responses and the earlier convictions that Hind expressed so articulately in her reflective essay.

The other possibility which arises from this uncertainty, and it certainly seems likely from Hind's descriptions, is the distinct lack of guidance to teach themes offered by either the class mentor teacher, or the Head of Faculty, whose responsibility includes pastoral care of pre-service teachers at the school. This may be compounded by a lack of understanding on the part of the staff, and the fact that themes were not consistently addressed or implemented through any of the schools where the internships took place.

7. Discussion

Teachers' ability to apply themes confidently and knowledgeably is critical. Shanahan, Robinson and Schneider (1995) describe the potential pitfalls of implementing thematic units and warn that teachers can inadvertently force subjects together to create artificial links which often results in a superficial



treatment of curriculum, or work at a level which is age-inappropriate. Thematic teaching may be a situation where the old adage that 'a little knowledge is a dangerous thing' holds true. A superficial understanding of the concept of integration can result in a legacy of superficial themes with poor curricular links, which teachers need to be well trained to avoid. As these authors say, probably "the worst mistake is that teachers develop thematic units around topics rather than themes" (p. 718). They go on to explain that themes need to be dynamic, and more statement or question oriented, providing examples such as 'exploration affects both explorers and what is explored' as opposed to topics, such as bears and food chains.

At the time of writing, ADEC had recently released their latest version of the curriculum, which included suggested and mandatory themes that appeared to fit well into this framework. The preparation from the college is in keeping with the ideology of the governing educational council which supports, in theory at least, the concept of teaching thematically and has produced some supporting resources with suggestions of themes which could potentially be used to teach science, maths and English simultaneously, such as 'Baking', 'Growing things, living things' and 'Inventions'.

The situation here in Abu Dhabi government schools is quite complex because the English medium teachers teach only three subjects, and in order to properly instigate themes for the students, intense collegial planning must take place between them and the teachers of the remaining subject areas. In a private, personal consultation with a government school teacher, as part of this research, the enormous gap between theory and the reality of actually implementing themes in primary schools was described this way:

Thematic units were more of an expectation for the KG schools. Slowly they begin to roll them out in other grade levels. I taught grade 5 this past year and they provided us with one thematic unit. Actually, that unit was not a grade 5 unit but a lower grade level unit, and my vice-principal instructed us to adopt it and rewrite the unit to fit grade 5. Needless to say, I never used the unit. Thematic units are referred to in the outcomes for each trimester (Personal Communication, 2013).

If the new college graduates join schools which are still in a state of flux, or at best are inconsistent in their use of thematic teaching, it will be much more difficult for them to gain the kind of support they clearly need to effectively implement such approaches. Miller and Davison (1997) report that in part, teachers' uncertainty or discomfort with integration is the fault of the teacher-training institution which does not adequately prepare pre-service teachers to move on from subject-based teaching. Additionally, teachers' understanding and confidence of pedagogical approaches has been widely reported by various researchers to bear direct relation to their use of such approaches (Fitzgerald, Dawson & Hackling, 2008). This is an important point, highlighted by Min, Rashid and Nazri (2012) who found that there was a significant relationship between teachers' understanding of thematic units and their practice of using thematic approaches.

8. Conclusion

Our analyses showed that, although all the PSTs had generally written optimistic, carefully thought out and pedagogically sound arguments for teaching thematically, most were unable to implement any of these ideas during their internship. This was in spite of their practicum requirements which instructed them to plan and deliver a thematic unit for three weeks as well as the fact that they seem to have a deep understanding of the benefits of the system. We suggest a variety of reasons for this based on their interview responses. One reason seemed to be that the schools they were placed in did not actively support the methodology behind developing and implementing integrated, thematic units. Given that the education system is currently in the midst of an Emirate wide reform and the pressure on schools to implement new curriculum and policies is immense, it is likely that the stress of learning, disseminating and implementing a relatively new teaching and learning strategy is too large an undertaking for the administrative and academic staff to handle. The pre-service teachers were also at a disadvantage because they were not able to look over the year's learning outcomes and choose ones which leant themselves to a particular theme.

The PSTs confidently developed themes and designed integrated lessons and activities while in the comfort and familiarity of the college. They demonstrated both competence and confidence in their ability to



successfully integrate this strategy in a primary school setting. To our dismay, their interview results indicate that upon attending internship, they felt insecure and unsupported in the implementation of new strategies. They may have been aware that they were operating under the watchful eye of the class teacher and felt disempowered, lacking the confidence to showcase and trial the very strategies they wrote so passionately about in their reflective essays. The pre-service teachers were also faced with the realities of full time teaching for the first time, and seemed overwhelmed by the pressure to complete a set curriculum in a stated period of time, ultimately resorting to more traditional, subject-based teaching methods.

Finally, it would seem that although the pre-service teachers clearly understood the theory and benefits behind teaching thematically, they lacked the skills necessary to successfully implement it in the classroom. They tended to choose superficial topics rather than content rich themes, which could be attributed to examples shown in class at various points throughout the semester. The fact that they were sometimes unable to integrate seemingly obvious learning outcomes and activities suggests a lack of practice with this skill at the college. It is possible that the students continually explored the curriculum document for only one or two grade levels, mastering the content for those grades but remaining deficient in the others. It is also possible that they do not fully understand the meaning of some of the more technically written learning outcomes, making the forging of links between outcomes for multiple subject areas difficult. Last, students were provided with plenty of opportunities to explore themes and accompanying activities while at the college, but on the whole they were able to select themes and content that they felt comfortable with. This meant that fitting the content into a theme required relatively little creative and critical thinking. Integrating pre-selected content, whether disjointed or otherwise, requires higher level thinking and creativity. It is possible that the students had not been made to step outside of their comfort zone during their college integration course.

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