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Educational Initiatives in Teacher Education Reform: Curriculum Intervention and Curriculum Innovation

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Abstract: This paper will focus upon education reform initiatives undertaken in teacher education programmes through innovative pedagogy and a learner-centered research agenda (Darling-Hammond et al., 2005); at Bahrain Teachers College (BTC) (see Bahrain Education Reform, 2006). These educational initiatives have been undertaken in order to reform the Bahraini K-12 school system.

Keywords: Selfeducational initiatives, curriculum intervention, pedagogic innovation

INTRODUCTION

Curriculum reform movements have extended the trajectory of 21st century literacies, of transforming teaching and learning using traditional approaches and resources to digital literacies, to multimodal literacies. The affordances of computer technologies-cyberliteracies have transformed the domains of information and communication (Unsworth, 2001). This in turn has led to a transformation in teaching to a pedagogy of multiliteracies, of multimodalities: visual, textual, audio, and to a multiplicity of semiotic resources, meaning making cultures to construct different dimensions of meaning: linguistic, visual, digital (Gee, 1990; New London Group, 2000; Street, 1984).

Technological tools have transformed literate forms of communication to networked communication. The way the book is read, the way information is selected, and shared is now transformed and mediated by technology to a textual habitat, (Goodwyn, 1998) and to screen based literacies (Kress, 1997).

This paper reports on a preliminary study on course effectiveness of a Bachelor in Education (BEd) 3rd Year course on the teaching of language skills and strategies of listening and viewing approaches in Bahraini classrooms, using multimodal and multiliteracies approaches. Educator Hargreaves (2000) argues that teachers need to be increasingly included in curriculum conception, and not just be seen as technical executors of technical delivery of pupil learning.

Teacher candidates at BTC were instructed on their critical understanding of multimedia teaching and teaching multiliteracies in order to develop informed teachers for effective pedagogic intervention. Teachers were encouraged to plan, design and construct digital texts for teaching. During fieldwork, teachers were set tasks and encouraged to develop digital teaching materials using digital learning tools: to record mediascape and soundscape of interactive environmental events and episodes, where the emphasis is on communication and engagement. Teachers were encouraged to develop digital images and digital scripts that reflect interaction, participation, and role relationships. The paper will analyse attempts by teachers to shift from the dependency of textbook teaching approaches to developing multimodal literacy.

The following questions were set for the study:

1. To what extent are teachers able to shift teaching and learning from recognition literacies, to reproduction literacies, and to reflection literacies? (Unsworth, 2001)

- 2. To what extent do teacher candidates evaluate, develop, and design learner centered materials and activities that develop the nature and depth of learners' critical thinking?
- 3. To what extent do teachers transform traditional textbook teaching approaches to creative multimodal and multiliteracies approaches?

Affordances of new technology: Enabling tools

It has been recognized by educators that enabling tools to develop multiliteracies will in turn lead to the development of more effective practitioners and the consolidation and transformation of a pedagogy of multiliteracies, (New London Group, 2000; Unsworth, 2001). The goal is in developing teachers to evaluate teaching approaches to viewing, critiquing, designing and creating multimodal texts. Jon Callow (2006) in *Images, Politics, and Multiliteracies*, discusses the use of a visual metalanguage. Unsworth (2001) recognizes the need for the practical application of new literacies: multiliteracies. The goal he states is to encourage teachers to move away from an authoritarian kind of pedagogy, such as the correct mastery of sound-letter correspondence in language, and prescribed textbook teaching.

Language curriculum tends to give more emphasis to writing, to the written text than to other competencies. Consequently, the urgent task is understanding the use of the different affordances of writing and image to the social context of learning (Kress, 2003b). Multiliteracy approaches have emphasized alternative approaches where the shift is to develop the functional grammar of visual design, where all texts are deemed to have social, cultural, and contextual meanings.

Literacy frameworks

Freebody and Luke (1990) developed frameworks that move critical literacy in the classroom from recognition-literacy where code breaking is given emphasis, and reproductive literacy which tends to reproduce literacy knowledge, to reflection and reflective practices which develop critical literacy that involves interpreting, constructing and reconstructing new knowledge. Multiliteracy approaches provide the development of critical analysis in teaching and learning, the development of the critical analyst who interrogates visual/verbal codes, critiques viewpoints and moves on to construct alternative views.

Meta language of multiliteracies

The New London Group (2000) discuss the nature of global and a technology-based culture where Kress stresses that curriculum in any locality has to attune to global demands, to 'local histories, values, dispositions, and contingencies' (Kress, 2000, p141).

The need for metalanguage in pedagogy is discussed by (Unsworth, 2001) on how knowledge, ideas, information are structured in different media and genres and how these structures affect people's readings of information and uses of texts. The notion of text is to include written, spoken, visual, multimodal and electronic hypertexts, and synchronous modes of image, movement, colour, gesture, and music. In literacy approaches, textual may refer to novels, picture books, advertisements, electronic media, film, artworks, and even theatrical performance (Unsworth, 2001).

Central to the powerful meaning-making mode of representation is to consider meaning making in visual, textual, and audio texts. Meanings are always disseminated through the particular media – the medium of the book or the medium of the CD-ROM, videos involving still and moving images, speech, writing, cartoon-like characters in comic strips, music, and texts. Kress (2003) refers to interrelations in contemporary texts of different modes of communication: writing, image, speech, music – and their effects on forms of learning and knowing.

New technology offers shifts in shapes of knowledge and informs of human engagement with the social and natural world. The New London Group (2000) discusses the use of multiliteracies to broaden modes of representation as it is much broader than language. This literacy movement considers the visual mode of representation as more powerful and closely related to language than 'mere literacy'. Multiliteracies create a different kind of pedagogy, one in which language and other modes of meaning are dynamic representational resources, constantly being remade by their users as they work to achieve their various cultural purposes (Kress & Van Leewuen, 1996).

Kress has discussed how image is theorized through semiotic systems and how meaning is constructed through multimodal texts. Kress, (2003) has provided a schematic structure to work on generic structures for genres where field, *tenor and mode* are identified, where *field* refers to social activity, *tenor* to social relationships among people using the language. They relate to meanings of event, participants, circumstances, to relationships: social relationships and power relationships and the affective dimensions of engagement. *Mode* refers to the role of language in the situation –spoken, written, visual, image and their links and relationships to the written word, (Kress, 2003).

Media technology offers specific possibilities to the designer, and to the reader/user in their reading and in other uses. It brings about changes in forms of reading. It requires a different type of reading or writing, a literacy that entails non-linear processing. The approach requires simultaneous processing. In the mode of writing, the medium of book/page is transformed to the mode of image and to the medium of screen (Kress, 2003).

A more powerful mode of multiliteracies is the recognition of the social construction of literacies (Unsworth, 2001). There is a need therefore to help educators understand the impact of images in a range of texts and the shift from page to screen based literacies and to web based literacies.

METHODOLOGY

Instruction was given on a course on Listening and Viewing, integrated with multiliteracies approach. In order to develop more critical awareness and critical thinking literacy in the new media, on the interplay of literacy practices to read and produce texts, teachers were encouraged to review digital resources. This exposed them and trained them to navigate digital resources of print, animation, and graphics. In learning by design, Kalantzis and Cope (2004) refer to ways of knowing, to Vygotsky's epistemologically grounded pedagogy which positions knowledge as a social construct (Vygotsky, 1978).

This paper reports on a preliminary study in a BEd 3rd Year course on teachers using multimodal, multiliteracies approaches to design materials. Lesson planning focused on Listening and Viewing, with emphasis on viewing tasks. It included explicit metalanguage to develop genres and in multiliteracies. Teacher candidates were instructed to review commercial videos on the Internet and to develop self-made learner-centered videos with the following criteria: contextual relevance, interactive texts using visual, language, images, and to develop digital transcripts for interactive role play.

The sample was a class of 25, 3rd year BEd teacher candidates. Teaching in the school system is largely chalk and talk, using prescribed English textbooks written by expatriates with a strong reference to British contexts adapted for Bahrain classrooms in a limited way. The current English teaching approach tends to be textbook-based with the separate language skills to be taught, where language teaching is compartmentalised into skills-based, practice-based: listening, speaking, writing, and grammar. The textbooks have practice exercises with matching items and fill in the blanks exercises which produce the one correct answer syndrome. As observed during classroom based practices, the use of IT is limited as classroom practice is still based on practice exercises.

BTC teacher education is set to extend teachers' pedagogical approaches via teachers as designers and producers, to teacher-designed and teacher created materials, rather than casual consumers of the digital media.

Multiliteracies: visual literacy - visual grammar

Visual literacy courses conducted at BTC in teacher education courses have attempted to transform the school curriculum. Teacher educators have moved to frameworks of literacy education via the frameworks of multiliteracies, genres, viewing and representing in visual literacy, and the use of functional grammars. However, there are practical classroom pedagogies that need to be developed to work with the frameworks of multiliteracies, of teaching representation and critical viewing skills.

The goal is to enhance positive educational outcomes for both students who display mastery of English, and for those who are not coping, where the English language is acquired as a second language (ESL), where English for such students is challenging and for some even alienating.

Semiotics in literacy frameworks

In literacy frameworks, it is viewed that the dependence on language, on words may be limiting. Words are seen as relatively abstract. You might understand the sentence, but may not understand the contextual meanings. With the use of intertextual images rather than the total dependence on words, the placement of images within text depicts entities relative to one another. Intertextual images are used to encourage the reader and viewer to engage in the semiotic work of making meaning. The move in language and learning is to give instruction in order to develop further critical awareness in semiotics, in the language of signs and symbols, in textual organization, and in textual structures.

Negotiating understandings

Negotiating understandings refer to teacher and students actively engaged in the process of negotiating meanings generated by texts leading to deeper understandings (Hammond, 2001). Teaching materials are not considered as fringe materials, not as extras, but to make visual literacy part of the pedagogical process in making learning meaningful. With appropriate modeling and scaffolding teachers in this course worked on negotiating learning in order to develop personalized learning.

Trending up

Trending up in the use of ICT approaches is for the digitally inclined teachers. For teachers who are frequent users of multimedia technologies it has opened up new tools: from notebook to smart technology that contain electronic medium, electronic content. In fact, for some, this digital approach is the preferred mode as there is a lack of extensive resources, both print and non-print materials in the site; some materials are seen as culturally inappropriate. The way forward is transforming teaching through digital teacher-made materials with a local context and ethos.

ANALYSIS OF LESSON: TEACHER A-DESIGNED CREATIVE MATERIALS

In the section below, two samples of teacher made materials are evaluated and discussed. The teacher candidates used the potential of new tools of technology to develop and design creative materials to engage learners. The affordances of new technology enabled affective/emotional experiences to be transformed into digital texts.



Teacher A's Interview

Teacher A in a brief interview shared the following thinking and beliefs. The teacher candidate had designed and created a video on friendship using her own experiences of being lonely and lost. Her objective was a learning task on problem solving, a task for expressing children's opinions, and proposing solutions. She had explored the genre of narrative and integrated print, and digital media with visuals and sound. By encouraging her shy students to role play, she had included the modality of gesture. There is an integrated design of visual, gestural, sound and kinesthetic modes. The use of puppets was to help overcome their diffidence in their presentation to an audience, their peers. It is the beginning of teacher's integration of traditional language activities merged with digital activities.

As young students listened to the video, the story narrated by the teacher in multiple voices, with the script attuned to the young listeners, they responded expressing their comprehension at different levels, based on their own experiences, feelings and moods. The processes of both listening and viewing on the screen becomes an interrelated process, where the viewer participates, making meaning. Digital technology is an enabling tool, allowing for simultaneous processing of sound, language, voice, tone, expression, with print. What is worthy of note is that the teacher placed teaching value above everything else, by getting them to make their own recipe for friendship, and engaging them to develop their own whole class recipe for friendship.



Figure 1: A non-linear combination of image and print by Teacher A

The visual text given in Figure 1 illustrates the teacher moving away from downloading images from the net and instead the teacher designed texts that give freshness to the image, images that are contextualised to childhood experiences of growing up in Bahrain. Children are encouraged both to draw, illustrate and write their experiences. It encourages the creation and construction of multiple texts that include their voice in writing texts, poems and songs. The video image in Figure 2 expresses the teacher's creativity in aesthetics, design and composition: the spatial element of giving focus to visual images that are foregrounded, of the aesthetics of color and interaction to provide inter textual meanings. The texts constructed contribute to a non-linear integration of image and print.





Figure 2: Teacher's creative design and composition: interactive aesthetics in making meaning

Kress (2003) states that design makes links between old media and new media. The conceptual understanding of design will allow for new ways of meaning making in texts. The processes involved are in reading, critically evaluating texts, writing, and producing texts for particular purposes and audiences, where design is an integral factor. Teachers' understanding of design and composition will enable them to instruct their students own construction of texts with multimodal features, to move away from narrow-linear teaching approaches. It allows for the construction of rich texts. Rich texts allow for the expression of affective responses in children, multiple responses, multiple interpretations of moods, and feelings. The synchronous processing allows for meaning making. They provide for a more holistic domain of language learning and literacy in the school curriculum. Literacy practices develop teachers' and learners' critical thinking to move from routine decoding of print information, from passive consumption of texts parked on web sites to reconstruction of texts.

Analysis of lesson designed by Teacher B

A planned unit of work was developed around the teacher's experience of growing up, plus a fun element to motivate her young learners. Drawing upon the enabling tools of technology, the teacher used Microsoft to create rich visual textures. The result was to move teaching away from consumers of materials to constructors of creative materials that would appeal to children as the texts were context driven and learner centered.

In a short interview teacher B expressed the following on her beliefs:

On Semiotics: Can writing do what image does? Do you agree that words are often empty of meaning? B: For me yes, I think it's often empty of meaning. For a child it's always empty of meaning, because whenever they find a text or read a text they know that they are reading it to know something that the teacher has forced them to know or memorize, so it is always boring and heavy to them, even to me, that was the way I was taught when I was a kid.

On visual literacy: How does design contribute to your teaching approaches, materials? Is design important to you?

B: Yes of course it's important, kids love attractive designs, and I like doing my own designs in everything "stories, videos...etc" and I like to do my own drawings because for kids I believe that it has



to be eye catching, and the colors should be vibrant. I believe that as soon as they know that a certain story or a book or a video is made by their own teacher they will be extremely excited to read it or watch it, that's why I insist on doing my own designs for my lessons.

Teacher A's reflection on pedagogical decisions

Teacher A in this study shares her thoughts (given below) on designing and creating teaching materials:

When we were in our BTC BEd 3rd year programme, carrying out Teaching Practice in an all-girls primary governmental school, my colleague and I had to teach one of the units in the textbook on friendship. Making friends is a lifelong emotional intelligence. I reviewed the textbook and thought that the textbook teaching materials on basic skills of listening to a song, reading a few paragraphs, and learning a specific grammar form did not enable students to acquire communication skills. Furthermore, the girls I taught were divided into their own self-chosen groups and did not like to work together. That is why I wanted to incorporate multimodal activities that would enhance students' interpersonal intelligence and create a positive learning environment. I began to read up on how to design literacy activities on the theme of friendship.

I planned and prepared a visual model for a metaphor on the theme of friendship, which is a recipe in which students had to be the designers (or "chefs") and had to select and agree on the components (or ingredients) for maintaining a successful friendship (Figure 3). This approach of using multimodal components that transforms the textbook unit theme to life enhancing skills, social skills that reflect children's needs was not familiar to the students. Scaffolding had to be included for learning to be meaningful and the learning outcomes to be realized. I had to explain to my students what they had to do, construct an example, and set collaborative procedures for organizing the activity. At the beginning, the students looked a little confused as to why such an activity was considered important. They knew "what" friendship is, but not "how" to maintain friendships or "why" you need to make friends. However, after their group tasks and their presentations, the students understood that in order to have a positive learning environment, they needed to be "friends". The group seating plan was based on their mixed abilities, not their social relationships outside the classroom. Discussing friendship in a collaborative learning environment encouraged them to talk about their feelings and what friendship specifically means to them. The following learning outcomes were realized.

This activity was successful because I saw a big difference in co-operative learning, in students' attitudes to one another in the days that followed. I found out that we can always extend students' learning by choosing not to be limited by the textbook and instead to incorporate enriching multimodal activities.

Evaluating content knowledge: multimodal approaches

These are Teacher's A's thoughts on teaching approaches:

Content knowledge in literacy-based curricula can be communicated to students in many forms. As we have different types of learners (visual, auditory, kinesthetic), I believe that it is limited if only one approach is used in favour of another. Multimodal approaches offer students "multiple chances of engagement" with learning. I tried to plan a lesson and design materials as part of one of my pre-service teaching practicum classes. The Ministry of Education in Bahrain decides on the syllabus and the curriculum. The textbooks imported for Grades 4-6 are developed in the United States of America and are not as relevant to students' lives as teachers would like them to be. Having a language curricula focused on separate language skills is not adequate to prepare students for the real world where life is dynamic. Therefore, I decided to contextualize the materials for children in Bahrain and make it interactive with a social purpose (See Figure 4), which was one of the reasons I decided to use a story from my childhood as a trigger for motivation and learning.

The video that I planned, created and developed, included both a narrative model and a visual model. I designed materials and drew and colored to narrate the story. Furthermore, I used paper puppets and scripts for the dramatized role-play. Through this, I planned, designed and encouraged my students to participate in all three types of learning, visual, auditory, and kinesthetic. When conceptualizing my drawings for the video and puppets, I started recalling my own childhood. I wanted the characters in the narrative to reflect the learners, who were the context and audience in this situation – and so I viewed some of my students' drawings in their art class. My inspiration for design was a doll-like coloring printout on childhood and I adapted it to plan and realize my learning objectives and learning outcomes. I wanted to develop a video with a Bahraini voice that represents and relates to the context and lives of my students. I attempted to make the multimodal teaching approach more cohesive. Thus, the story in the video was narrated by three people of similar backgrounds, my two sisters and I in order to have a familiar Bahraini voice and context.

Planning and designing for ESL and EFL learners

These are Teacher A's thoughts on design:

I designed and created a video and added subtitles in order to help both the auditory and visual learners. This is because as EFL students, many still face difficulties when learning and acquiring the two languages, Arabic and English. I see myself as a designer and creator of materials that are meaningful to my learners and as a co-author of a text that is being created concurrently; this is because I have written a narrative script to include my memories that provided the storyline, and characters. I selected my materials very carefully taking into consideration my students' age, background, interest, and prior knowledge.

Students' learning task: negotiating learning

I expected my learners to reconstruct an integral part of what they viewed which is the ending of the story. This co-construction is vital because it helps the learners shift from dependence to independence where they are in charge of their own learning. I used the following prompts. How would they like it to end according to their learning and their interest? What do they see fit as an ending of their story in relation to their social context? The students had to negotiate new ways of learning from set answers to moving from the known, their prior knowledge to make links to the new as they reconstructed the metaphor of friendship. The students were encouraged to develop intersecting modes of meaning, linguistic, visual, compositional, representational, and social. What the children constructed reflected their beliefs and their needs.

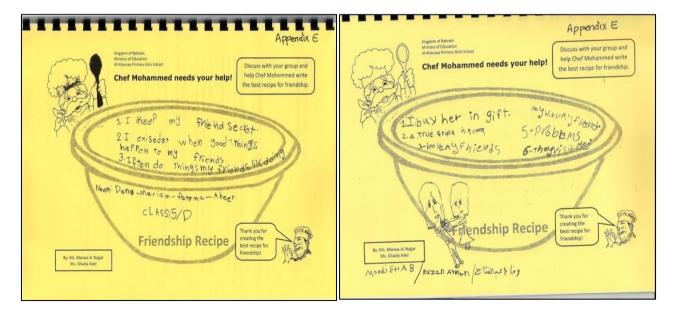
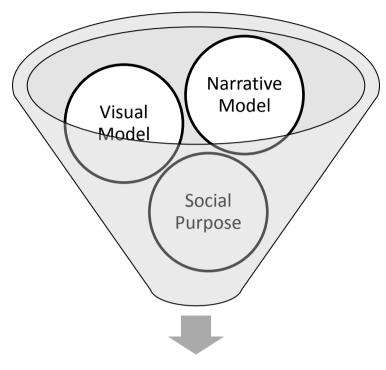


Figure 3: Group tasks: constructing metaphors on friendship



TEACHER A: MY FINDINGS: CO-CONSTRUCTING KNOWLEDGE

In conclusion, I believe that multimodal teaching approaches offer students a rich and creative environment in which they have an active role in co-constructing their learning. As Bahrain becomes more diverse with many nationalities and new citizens, we need as teachers to make sure that our learning outcomes are effective as lifelong learning experience. Therefore, we need to teach with a social purpose, have students co-construct their knowledge with their peers, with their teacher, help them have a positive attitude towards learning with peers and to collaborate with one another.



Interactive model: co-construction of multimodal print&non-print texts

Figure 4: Interactive model: transforming texts

Figure 4 is an interactive model that represents the links between the narrative with the visual and the integration with the social purpose. The model synthesizes how this interactive set of approaches was used to motivate students to become constructors, re-constructors and co-constructors of texts. During co-constructing meaning making learning experiences, children begin to organize, structure, design and synthesize multimodal texts.

Teacher A: My beliefs and value

I believe that students are constructive members of our society; therefore, the opportunity given to expressing their personal experiences contributes to empowering them into becoming active and lifelong learning citizens. Students develop not only cognitively, but also affectively, spiritually, and physically.

As teachers, it is important to set high expectations for ourselves before the students, if we are to excel. Each student is unique, and deserves an education that is adapted to his or her strengths and needs. For that reason, we ought to use different teaching methods suited to maximize students' learning. Students should constantly be challenged and provoked to think critically. We should also focus on allowing children to manage their own behaviour, relying on their intrinsic motivation in order to help build a more positive and productive classroom environment. My classroom community will always be about learning, respecting,

developing positive approaches and attitudes towards learning and about each other; I do not merely accept differences, but celebrate them. Last but not least, I believe that learning is a lifelong process; therefore, as teachers we have to refine our teaching practice based on the technological advancement in the world, our personal reflections, and continuous feedback from our students.

The reflections from Teacher A given above show teacher engagement in literacy education as a necessary part of teachers' knowledge and part of the pedagogical knowledge processes schema (New London Group 1996, Kalantzis and Cope, 2004).

A model on learning outcomes

The model below is a construction of the learning outcomes that came about in the classroom teaching and learning environment. There were changes to students' attitudes toward learning, leading to more collaborative learning.

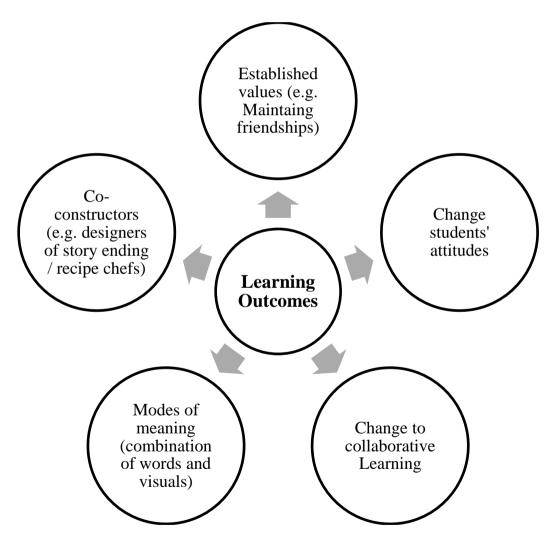


Figure 5: A model on learning outcomes

Figure 5 is a model that analyses the learning outcomes that were established as a result of the teachers using approaches that reflect critical learning. Learning is approached as a social construct where participants actively construct meanings.



A model of learning as a social construct

Both teachers A and B used the enabling tools of technology to develop and design creative materials to engage their learners. The affordances of new technology enabled affective/emotional experiences to be generated and constructed into digital texts.

The concept of design in multiliteracies theory refers to designing multimodal texts and the processes involved in designing – as semiotic activity involves the design elements of linguistic, audio, visual, gestural, spatial and multimodal resources. Children are both encouraged to draw and write their experiences. It encourages the creation and construction of a variety of interactive texts, a paragraph, a poem, a song, a message or an image.

CONCLUSION AND IMPLICATIONS

The educational initiatives discussed in this paper in implementing a visual literacy approach is a start towards recognizing the need for innovative teaching approaches. The intervention outlined in this study is an early beginning towards reflective practices. Pedagogical practices have moved beyond antiquated approaches of direct instruction and recall type exercises. Teachers reflect upon the need to move beyond teacher centered transmission of skills and knowledge. BTC teachers have attempted to integrate higher level reasoning, develop children's critical thinking and include problem solving in task-based learning. What is pertinent is for teachers to develop an interactive pedagogy where children dialogue with the teacher. Lave and Wenger (1991) state knowledge is principally situated in socio-cultural settings and in fundamentally contextualised settings. Teachers need to be encouraged to use pedagogical approaches that will enable students to make links, make connections to life world experiences with their families and their communities. Children were encouraged to make intuitive links to their prior knowledge by sharing with their peers and constructing and reconstructing their texts. Their task on friendship led them to new experiences on working with groups as every pupil had to pitch in with their ideas and construct together. Shared learning and collaborative learning tasks led to learning space that had to be negotiated.

Transformed practice is when learning moves beyond transmitting knowledge to meaning-making practice by putting meaning to work in other contexts or cultural sites (New London Group, 2000).

Effective teacher education encompasses a new professionalism, expansion in teachers' roles, and teachers inquiring and collaborating in knowledge generation, states Cloonan (2010). This reflects the movement away from the transmission of reproduced declarative knowledge where teachers see knowledge as discrete bits of information. Here students' learning is reduced to repeating, memorizing, and recalling this given information. Instead, literacy approaches establish learning as a social construct where students evaluate, critique and develop multiple meanings and understandings.

The Bahraini schools syllabi and curriculum is yet to respond to literacy related, meaning making affordances of semiotic resources. The links between linguistic, visual, audio, gestural and spatial relations in contemporary teaching approaches are still to be planned, designed and implanted.

Transmissive pedagogies do not develop the learning processes of decision making, problem-solving or higher-level reasoning and critical thinking (New London Group, 2000). It is necessary for curriculum review to take place in order to shift from transmissive pedagogies to bring about curriculum change and innovation. New London Group (1996) discussed the place of cross cultural boundaries. There is potential for developing new pedagogies in a multilingual context, in an environment of multiple languages and multiple Englishes. The move is from skilling people to preparing and developing young people for a global economy where diversity is valued, where innovation is valued, where team effort and collaboration is valued. New pedagogies are required in learning contexts, in learning environments in bilingual settings in order to develop social capital, to nurture both content driven and pedagogical (PCK) competencies, to generate, establish and consolidate national capital.

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Appendix I

Methodology

Interview questions with teacher candidates:

- 1. Can writing do what image does? (Kress, 2000) Do you agree that words are often empty of meanings?
- 2. What is the difference in using images/pictures?
- 3. What were the beliefs reflected in your drawings?
- 4. The affordance of space: How did you use space to construct meanings?
- 5. How did you use color to construct meanings?

Construction of multimodal texts:

- 1. How did you go about designing materials for the viewer/reader? Did you have a central idea? A central purpose?
- 2. How did you construct images to represent meanings?
- 3. How was print used to construct meanings?
- 4. How were script- spoken texts used to construct meanings?
- 5. Did you see yourself as an author of texts written as a teacher or as a provider of materials to the children in your class?
- 6. Are you still the author who has authority over the texts?
- 7. Do you expect your young students to reproduce what you have showed them/ shared with them?
- 8. How did the texts that you designed encourage/ motivate your students?
- 9. Reflective Practice: sharing my reflections on the processes of designing teaching multimodal materials.