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**Efficacy of Drama Based Teaching on Children with Learning
Disabilities**

by

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ABSTRACT

This study was conceived from a concern for the lack of academic success some children with learning disabilities experience. It was postulated that children with learning disabilities may be able to learn through means other than what is typically offered in "traditional" teaching. This study represents an attempt to shed light on a small aspect of this problem by examining a drama based teaching method designed to increase affective attunement in the learning situation, which was hypothesized to improve children's academic performance.

Affective attunement was discussed by Stern (1985) with regard to a special interpersonal connection between mothers and infants that may be important for social/emotional growth. Drama based teaching seeks to create a milieu that supports and encourages affective attunement through mutuality of focus, similarity of emotions, and a sense of oneness among class participants so that active performance-based learning can be done.

Children with learning disabilities often have weaknesses in reading and writing, but traditional teaching strategies focus upon these and assume that children can and want to learn through these two skills. It may be that through drama, students may emotionally connect with others and the materials, this may utilize strengths of these children rather than teaching using a deficit model of remediation.

This study focused on 24 matched pairs, in which there was a child with learning disabilities and a child without learning disabilities. Each child completed a pretest, engaged in a lesson in one of the two teaching styles (drama based or non-drama based) and then wrote a post test. This was then repeated using the other teaching style. The affective attunements under each teaching style were observed for

each child of the matched pair and this was examined along with their academic improvement and their "satisfaction" scores.

The findings support the hypotheses that (a) the use of drama based techniques in teaching increases the amount of affective attunement occurring within the classroom, (b) students have greater academic improvement when exposed to a Drama condition compared to a Non-drama condition, and (c) there is greater general satisfaction shown for drama based teaching than non-drama based teaching by children with and without learning disabilities. Post hoc analysis indicated some support for relationships between (a) frequency of affective attunement and improved academic performance, (b) satisfaction shown for classes and the amount of affective attunement students experienced, and (c) satisfaction with classes and academic gain scores. There was, however, no support found for greater improvement in lesson gain scores nor greater satisfaction in drama based teaching in children with learning disabilities compared to children without learning disabilities.

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DEDICATION

This dissertation is dedicated to my family.

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CHAPTER ONE

INTRODUCTION AND LITERATURE REVIEW

Introduction

Drama is often touted as a means for improving students comprehension and retention of information (e.g., Behr, Snyder, & Clopton, 1979; Foster, 1992; Way, 1967). Foster (1992), for example, indicates that drama is used in innovative classrooms on a regular basis. Vitz (1984) suggests that drama can help children make an important connection between the theoretical and practical aspects of learning by facilitating meaningful learning in which the student's involvement increases enjoyment and thereby learning. Most books and articles published in the field of drama in education have been concerned with techniques, methods, materials, rationales, testimonials, and historical overviews (O'Farrell, 1994). There have been few empirical studies that measure the effects of drama as a teaching tool; yet drama techniques are often suggested as interactive and innovative teaching techniques. Best (1996) states that the efficacy of the arts in general and drama in particular, are in need of "objective proof."

There are also many claims about the strong social and emotional elements in the drama class and how children "love to learn" in a drama class (e.g., Slade, 1954; Way, 1967). Proof of this is often in the form of "sententiously metaphysical, or in vacuously mystical aphorism, or in obscurely esoteric terminology" (Best, 1996, p. 4). Bramwell (1996) maintains that there is a need for quantitative study in drama to investigate its social and emotional value and importance.

Finally, there are often claims about drama being an effective instructional methodology to use with learners who are experiencing difficulty (Behr, Snyder, & Clopton, 1979; Foreman, 1980). Such researchers argue that drama is often neglected when teaching children with learning difficulties and that it can address academic concerns by integrating cognitive and affective skills. But quantitative proof of these claims seems to be wanting.

Research on children with learning disabilities has typically centred on the study of their academic and cognitive functioning from a deficit model in which it is assumed that difficulties can be remediated or skills upgraded to meet peer standards. However, in recent years, research in the social, emotional, and behavioural functioning of these children suggests that they display more behavioural problems, less social competence, and greater susceptibility to socioemotional difficulties than their higher achieving peers, which in turn impairs their academic performance (Winzer, 1996). The present study was designed to provide evidence that children with learning disabilities can improve their academic performance as contrasted with higher achieving peers given a teaching environment (drama) in which their behavioural traits are employed rather than being deemed inappropriate. This was done using drama techniques in which children emotionally connected with one another, the teacher and the curriculum material.

This study is based on the assumption that there may be a unique contribution that drama theory and practice can have on children in general and, in particular, on children with learning disabilities. It examines the efficacy of drama-based teaching compared to teaching that does not use drama techniques with regard to academic achievement and student satisfactions for two different types of teaching. Thus, the present research attempts to assess the value of drama in learning situations. That is, it attempts to provide support to the idea that drama, as a method of teaching in core

curricula (math and social studies), is an academically valid teaching form which improves student test scores more than traditional teaching techniques in students with learning difficulties.

Overview

The literature review is organized into seven sections. Each section contributes to the theoretical underpinnings of this study. The first section (affective attunement) presents a presumed underlying mechanism for why drama may be effective in the classroom. Affective attunement is defined and its origins are examined. The theoretical basis for affective attunement is discussed, focusing on vitality affects and how affective attunement may be quantified.

The second section defines drama in the classroom. It suggests that there are important aspects of drama that include, play, dramatic play, creative drama and role play. This section also clarifies how theatre is related to drama. Finally, drama in teaching and learning is examined and how it is used to facilitate active learning, higher order thinking, imagination, cooperation, and social awareness.

The third section discusses the interrelationships between affective attunement and drama. It explicates how the milieu of a drama class could promote moments of affective attunement. Though drama theory originated from children's play, it has been heavily influenced by the activities and exercises used in actor training. Thus, theatre training as practiced by Stanislavski and his actor training system is discussed as it is related to affective attunement. This section also points out similarities between the pinnacle of Stanislavski's system of actor training, "communion," and affective attunement.

The primary focus of the fourth section is learning disabilities with regard to student academic underachievement. The present study focused on students who were

in independent progress programs (IPPs) that attempted to remediate their weak academic performance. This section discusses student criteria for admittance into IPPs.

The fifth section deals with how learning disabilities and affective attunement may influence one another. It presents research regarding the social and emotional characteristics of underachieving children in general and children with learning disabilities in particular. The section ends with an examination of how social and emotional factors may relate to affective attunement.

The sixth section reviews literature related to drama and underachieving students. It begins with an examination of the value of the arts in general and drama in particular to the education of underachieving children. It investigates the potential value of drama to underachieving children in improving academic performance.

The last section (present study) presents the specific purposes of the study, the design, and the hypotheses and rationale.

Affective Attunement

Affective attunement is a special type of interpersonal relationship in which a unique sense of emotional oneness occurs between two individuals. This phenomenon has only been recently named and studied by psychologists and psychiatrists. Stern (1985) was one of the first to describe affective attunement in mother-infant relationships. Other authors such as Chinen, Spielvogel, and Farrell (1985) and Pearlman (1988) have described similar attunement interactions between adults and have used other names to describe the phenomenon such as merging and emotional mirroring.

Definition of Affective Attunement

Mother-infant attunement is centred in the affective domain and involves feelings that are reflected and matched in some manner. The match is of an internal state, not of outer movements or vocalizations. "Affect attunement, then, is the performance of behaviors that express the *quality* [italics mine] of feeling of a shared state without imitating the exact behavioral expression of that inner state" (Stern, 1985, p. 142).

The term "affect" reflects discrete emotions and the affective domain which is a "primitive" method of organization that acts like a "supra modal currency" (Stern, 1985). Izard (1993) observed that newborns' faces can express the emotions of interest, joy, distress, disgust, and surprise. There is some question as to whether they can feel these emotions until later development occurs; however, Durkin (1995) has cited experiments by Chiva (1983) in which infants aged two months reacted with clear emotions to different tastes.

Infants organize their early experiences in the affective domain. Stern (1985) suggests that infants experience sensations, perceptions, actions, and internal motivation in terms of intensities, shapes, temporal patterns, vitality affects, and categorical affects. This form of experience is based on feelings and operates in the affective domain. The sense of self, for example, is first "understood" in the affective domain, which is experiential.

The affective domain deals with sensations and intuitive impulses rather than weighed opinions. Stern (1985) suggests that the affective domain operates outside of awareness. The distinction between cognitive and affective domains is based in the crucial term "...sense of,' as distinct from 'concept of' or 'knowledge of' or 'awareness of'" (Stern, 1985, p. 71).

Stern (1985) suggests that a child operates in the affective domain in the first three stages of life (emergent sense of self, 0 to 2 months; core sense of self, 2 to 7 months; and subjective sense of self, 7 to 16 months). Not until the middle of the second year of life does Stern (1985) suggest that children begin to use the cognitive domain.

Stern (1985) found that mothers and infants frequently engage in behaviours that match or mirror the emotion of one another and produce a unique sense of connectedness. This connectedness is more than physical imitation. The child and mother do not necessarily engage in the same or similar actions. Rather, the behaviours reflect an emotional state that both the mother and infant share through their similarity in intensity, timing and/or shape. For example, a child may vocalize at a certain intensity and the mother may reflect the sense of the vocal intensity in a body moment. Stern (1985) defined such mother-infant interaction as attunement which “... give the impression that a kind of imitation has occurred. There is no faithful rendering of the infants' behaviour, but some form of matching is going on...” (p. 141).

The “matching” in affective attunement is often cross-modal. A child may vocalize and the mother may respond with similar vocalizations; but at another time, a vocalization at a certain intensity may be matched with a body movement that reflects that intensity. A mother's nonverbal grunt may reflect the physical strain of her infant's effortful reaching. A young child may express joy and excitement through banging a toy rhythmically, while the parent matches those rhythms and the emotion by uttering nonverbal grunts that match the rhythm of the child banging and the child's emotional state. An infant, for example, may chant a repetitive “la la la la la” and the mother may “join in” with a bobbing of her head.

The match can also be of similar actions; for example, a young child may express joy and excitement by uttering rhythmic vocal sounds and the mother may

match the emotion and rhythm by copying the infant's vocalizations. However, attunement is not a matching of the behaviours or actions but a matching of an internal state or emotion. "What is being matched is not the other person's behavior per se, but rather some aspect of the behavior that reflects the person's feeling state" (Stern, 1985, p. 142).

The highest form of affective attunement Stern (1985) calls interpersonal "communion." Webster's New Collegiate Dictionary states that communion is "an act or instance of sharing and intimate fellowship or rapport" (p. 226). Stern suggests that communion is a desire to connect with, to be with, to share, to participate with, and to join in without wanting to instruct or to change the other individual. Communion is when two individuals "... share in another's experience with no attempt to change what that person is doing or believing" (Stern, 1985, p. 148).

Stern made a distinction between "serving the function of communication" and communion. The former is when mothers want "... to respond, to jazz the baby up or to quiet, to restructure the interaction, to reinforce, to engage in a standard game" (p. 148). Serving the function of communication denotes that the mother is changing the interaction and she is causing a change unilaterally. Interpersonal communion on the other hand is a phenomenon which seems to go beyond simultaneous co-creation between the mother and infant to the creation of an activity between the two as though the dyad were one.

"Mirroring" and "echoing" are terms used by some professionals to describe interactions in which one person intentionally tries to connect with another person's inner state. The "merging" process, as described by Chinen et al. (1985), is a process in which the analyst tries to use his or her intuition to connect with a client on an intuitive or affective level. This process allows deeper kinds of interpersonal experiences between the analyst and the analysan. The analyst attempts to

temporarily merge with the analysan, momentarily dissolving ego-boundaries.

Mothers interviewed by Stern also mention the phenomenon of "dissolving ego-boundaries". They described an attuned moment by suggesting that there is a sense of "oneness" with the child.

Pearlman (1988) describes the sense of oneness in adult relationships using the term "merger" which she defines as "... a psychological state in which there is a loss of a sense of oneself as individual and separate.... In some relationships, merger is transient and mainly present during times of sexual or emotional closeness. In other relationships, it is a normative preference for intense connection which can include some loss of individuality" (Pearlman, 1989, p. 78). Fouts and Hrynchuk (1993) and Hrynchuk and Fouts (1998) define affective attunement as the spontaneous experiencing of a sense of oneness or connectedness with another. The phenomenon of "oneness" as described by Chinen et al. (1985), Fouts and Hrynchuk (1993 & 1998), Pearlman (1989), and Stern (1985) seems to suggest that special affective connections regularly occur between individuals.

Affective Attunement in Children

Affective attunement is a type of intersubjectivity, one of the bases of early nonverbal interpersonal communication. Holmes (1993) suggests that "...maternal 'attunement,' 'tracking,' and the establishment of an 'interactive envelope' characterize successful mother-child 'conversations'" (p. 434). The development of the affective domain and sharing within that domain seems to occur very early in an infant's life, before sharing in the cognitive domain (Stern, 1985; Trevarthan & Hubley, 1978). Stern (1985) suggests that affective attunement occurs when an infant has developed sufficiently to have a sense of self, distinct and different from others, at the age of about seven to nine months. Beebe and Sloate (1982), however, suggest that attunement is important in mother infant relationships at three months.

Stern (1985) argues that the sense of being separate is important because “...infants gradually come upon the momentous realization that inner subjective experiences, the ‘subject matter’ of the mind, are potentially shareable with someone else” (p. 124). This sense of separateness allows infants to experience a sense of intersubjectivity in which they sense that they can perceive the mental state of someone else who is distinct from themselves. Stern (1985) summarizes this by saying “...what is going on in my mind may be similar enough to what is going on in your mind that we can somehow communicate this (without words) and thereby we experience intersubjectivity” (p. 141).

Attunement is a necessary behaviour to engage in for “normal” emotional growth. Stern (1985) suggests that “... feeling states that are never attuned to will be experienced only alone, isolated from the interpersonal context of shareable experience. What is at stake here is nothing less than the shape of and extent of the shareable inner universe” (p. 152). The development of attunement patterns is also very important in the emerging social understanding of the young child. Harvey and Kelly (1993) state that without the development of a “... series of ‘dances’ of attunement of emotional expression, children’s ability to form empathy for self and others is significantly compromised” (p. 389).

Galdikas (1995) maintains that infants depend on a responsive mother who confirms that “... they have an effect on the world, that their expressions of need are understood, that their emotions are reciprocated, whether by smiling back when they smile or comforting them when they cry. Without this interaction - without the responsive presence of the mother herself - normal development is difficult if not impossible” (p. 211). It is this interpersonal interaction which Stern (1985) describes as affective attunement.

In an application of Stern's notions of attunement, Harvey (Harvey & Kelly, 1993) presented testimony in court to help determine the permanent placement of a child whose pseudonym was "Aaron." He analysed and compared videotaped interactions Aaron had with his birth mother and his foster parents and found 115 moments of attunement with the foster mother compared with 6 with the birth mother. Harvey (Harvey & Kelly, 1993) suggested to the court that Aaron's nonverbal behaviour with his foster mother showed he had developed a very secure relationship with her and that the greater number of attunement moments indicated the child's choice of whom he would choose as his primary caregiver.

Analysis of Affective Attunement

An analysis of affective attunement requires that it be defined as behaviourally distinct from other related behaviours. Attunement and intersubjectivity are closely related as they both refer to a mutual sharing of psychological states in which there is a special or shared awareness. They are both formed by interpersonal meanings that are mutually created. They both can exist without words; and in the case of nine month old infants, they both can occur before language. Attunement as a form of communication deals with expression of feeling and its language does not seem to be words, but rather "... deals with behavior as expression rather than as sign or symbol, and the vehicles of transfer are metaphor and analogue" (Stern, 1985, p. 142).

Stern suggests three kinds of intersubjectivity that promote nonverbal communication between mother and infant: (a) sharing focus of attention, (b) sharing intentions, and (c) sharing affective states. The first two are in the realm of interintentionality; "... by nine months infants have some sense they can have a particular attentional focus, that the mother can also have a particular attentional focus, that these two mental states can be similar or not, and that if they are not, they can be brought into alignment and shared" (Stern, 1985, p. 130). Although these two states

may have affective components, there is not a shared sense of oneness as in affective attunement.

If an infant reaches for a cup to indicate that he or she wants to drink and the mother gets the cup, then this would be sharing the focus of attention. The attention is communicated by the infant to the mother. If, however, the infant reaches for the cup with an intensity that the mother reflects in her own reaching, then there could possibly be a moment of affective attunement associated with the shared focus of attention.

An example of sharing intention is if the mother announced it was time for bed and the child acknowledged the information by crawling away. This example could be affective attunement if the mother's announcement was delivered with rising energy and the crawling away was a reflection of the shape of that energy. The term intersubjectivity applies to all three states, but only during the third state, sharing of affective states is there affective attunement.

Stern (1985) used a panel of raters and a rating scale to measure the occurrences of affective attunements. He identified "vitality affects" as the way in which affective attunement was communicated and taught the raters how to observe and rate a potential moment of affective attunement. According to Stern (1985) what is being matched in affective attunement are the vitality affects which are the observed, non-verbal manifestations of inner states. It is through the observation of vitality affects that people understand or can gauge affective attunement. Stern (1985) maintained that vitality affects are "qualities of experience" and are "... definitely feelings and belong within the domain of affective experience" (p. 55). However, they are not necessarily attached to the categorical forms of emotion (e.g., happiness, sadness, fear, anger, disgust, surprise, interest, shame). They are the mode by which emotion can be recognized in others and the way affective attunement can be observed.

Galdikas (1995), writing about Orangutans, suggests that the connection between mother and infant (human and Orangutan) is "... loaded with multisensory (visual, auditory, thermal, tactile) input..." (p. 211). These "multisensory inputs" are vitality affects. To understand that a person is feeling a certain emotion requires communication that does not have to be in the form of concrete understandable sentences. Affective attunement may be best encountered through vitality affects in an "instinctive" or "non-cognitive" manner.

Infants understand their world through the affective domain. A mother's movement to get a diaper is not registered as "going to get a diaper," but rather, as a "sweep" or a "rush." What is understood is the movement and the familiarity, not that it has a purpose. Stern (1985) suggests that young infants' experience of stroking intended to calm and a calming repeated phrase can be functionally the same in that they both result in the same vitality affect experience. Therefore, vitality affects are not associated with a movement or expression; rather, they are associated with the perceived intent or interpreted intent of an action. Vitality affects are the "building blocks" of inner states and are qualities of experience. Stern (1985) suggests "these qualities of experience are most certainly sensible to infants and of great daily, even momentary, importance" (p. 54).

Recent Research

Fouts and his colleagues (Dent-Cox & Fouts, 1996; Fouts, 1994; Fouts & Hrynchuk, 1993, 1998) have extended Stern's (1985) research to children and adults. They have examined (a) affective attunement occurring between play therapist and children with Down syndrome (Dent-Cox & Fouts, 1996), (b) adolescents' ability to recognize attunement in others and the factors which influence this recognition (Fouts & Hrynchuk, 1993; Hrynchuk & Fouts, 1998), and (c) the affective attunement

occurring between actors in television programs and movies (Fouts, 1994). These studies have expanded on Stern's (1985) definition of affective attunement by including additional criteria related to children's' and adults' subjective experiences. Their criteria involve three behavioural components to affective attunement: (a) emotional sharing or the occurrence of the same feelings between individuals (as indicated by vitality affects), (b) focusing on one another (as indicated by mutual gazing and/or "awareness" of the other), and (c) experiencing a sense of "oneness" or transcendence (as indicated by the flow, mutuality and reciprocity of nonverbal behaviours) between individuals.

Trained observers can attain high reliability's in these judgments. The validity of these judgments has been documented by recent research. For example, adolescents and university students having close relationships with parents and friends have a greater incidence of attunement experiences (Fouts & Hrynchuk, 1993). Women believing in and valuing attunement experiences are better able to recognize attunement in others than men (Hrynchuk & Fouts, 1998). Children with Down syndrome can become better attuned with therapists in play settings which permit freedom of movement and expression as opposed to structured situations (Dent-Cox & Fouts, 1996). Affective attunement between actors in movies can be observed by trained university students with a high degree of interrater reliability (Fouts, 1994). Fouts (1994) also observed that affective attunement occurs more often in the presence of female actors than male actors and in situations in which positive emotions occur.

Drama in the Classroom

Learning through drama takes place in a milieu that is emotionally safe, creative, and supportive. This milieu is created through activities and exercises that come from children's play and from acting theory. Some children's success in learning through

drama methodologies may be due to their positive reaction to the aforementioned milieu.

Drama in the classroom often utilizes the kind of play that children naturally engage in. The primary objective of both play and child drama is a happy and balanced individual (Slade, 1954). In order to understand what drama in the classroom is and the function it can perform, some important aspects of classroom drama must be examined including play, dramatic play, creative drama, role play, the differences and similarities between drama and theatre, and some of the value drama has in teaching and learning

The origin of the word *drama* comes from the word *drao* meaning, "I do, I struggle" and that sense of doing pervades drama in the classroom. Drama requires participants to engage in material that is being studied in an active, emotional manner. The information seems to become personalized through "pretending." Slade (1954) and Way (1967) suggest that drama is how children discover life and self.

Play

The ability to play with one another is important to the members of a drama class (Slade, 1954; Way, 1967). In order to have children play in a drama class an emotionally safe milieu in which play is encouraged must be created. The drama teacher usually does this by having the students engage in a series of orientation activities which encourage positive emotions and mutual focus. Slade (1954) suggests that the root of drama is play and that through play children make sense of their world. Play is an innate and vital part of young life. It is not idleness; rather, it is the child's way of thinking, proving, relaxing, working, remembering, daring, testing, creating, and absorbing (Way, 1967).

Stern's (1985) examples of affective attunement are often based on incidents in which the mother and child are engaged in "play." Play may create a milieu in which affective attunements can more readily occur. Drama activities that are based on

playing games may create increased opportunities for mutual focus, similarity of emotions, and a sense of oneness which are the criteria for affective attunement.

Play, which allows children to grow and learn spontaneously, includes dramatic play which is an "excellent vehicle through which children can express their thought, develop their imaginations, explore language, and order and make sense of diffuse experiences through their own observations and impressions" (Booth, 1987, p. 21). Dramatic play is role-based play in which children take on characters to engage in "pretend" activities. It is often the free play of very young children, in which they explore their universe, imitating the action and character traits of those around them (McCaslin, 1996).

Dramatic play can be seen in the activities of young children in which it helps them make sense of their lives. Dramatic play allows children a safe unstructured environment to explore feelings that are deemed important by children and to experiment with issues of self worth in a form that is dictated by them (Carmichael, 1992). Weininger (1983) suggests that dramatic play is critical to the emotional, physical, and cognitive development of children and that as children develop, play can allow them to deal with powerful emotions in a positive and open manner.

Vitz (1984) suggests that drama allows an important connection between the theoretical and practical aspects of learning much like the connection that children make during dramatic play of their theoretical and practical worlds. This connection is an important element of meaningful learning in which an individual's involvement can increase enjoyment and learning.

Creative Drama

Creative drama is where a leader carefully directs the dramatic play of participants. The milieu of a class in which creative drama is used is of utmost importance. A compassionate teacher modeling and reinforcing appropriate behaviour

can help create the necessary caring, creative, and supportive milieu. Way (1967) suggests that a full, generous and compassionate interest in children is an important prerequisite to creating a supportive milieu in which children may express themselves in a wider range of behaviours than are accepted in a more traditional classroom.

Creative drama is an "improvisational, nonexhibitional, process-centered form of drama in which participants are guided by a leader to imagine, enact, and reflect upon human experiences" (McCaslin, 1996, p. 7). It may be regarded as a way of learning, a means of self expression, a social activity, or an art form. Children are helped to assume responsibilities, accept and work on group-based decisions, work cooperatively, develop new interests and seek new information (McCaslin, 1996). Creative drama takes the impulses children have to engage in dramatic play to develop powers of awareness, increase self confidence, encourage sensitivity, learn information, and facilitate use of imagination. It encourages learning and personal growth by employing the individual child's life of feelings, emotions, and ideas (MacGregor, Tate & Robinson, 1977).

Creative drama uses role play to encourage students to engage with concepts or materials in a more emotional manner. The power of drama according to Heathcote (1972) lies in the nature of "pretending" or living through. She maintains that individuals can escape from their own existence and learn from the events they have seen, read or heard about through taking on those events in role play. The important element in role playing is the emotion within the participant that is conjured up by the roles they play. Heathcote (1972) suggests that role play is important for children because it allows them to put themselves emotionally into "someone else's shoes." She states that imagination people can make acquaintance with other people using their imagination and role play. She states that the value of finding out about others through role play is " ...the energies that may be released in us for greater sensitivity, greater

comprehension, new knowledge of our society and other men (even of ourselves) and of new awareness of our relationships with those near to us in the community in which we live" (p. 158).

Individuals can emotionally connect with events through their imaginations when reading or viewing plays; however, Heathcote (1972) states that children connect with events naturally in an emotional manner while role playing. Regarding education and its heuristic value, role playing challenges the children first to feel and comprehend, then to make their knowledge clear to themselves (Heathcote, 1972). **Theatre and Drama**

The other important influence on drama in the classroom is actor training as practiced in the theatre. The practice of theatre in North America has been heavily influenced by Stanislavski (1976). His school of acting connects performance with the natural and responsive play of children (Easty, 1978). Stanislavski (1976) suggests that actors should rehearse and perform in an emotional manner in order to attain the highest form of acting, "communion," with one another and the audience.

Theatre suggests an ordered occasion of entertainment and shared emotional experience in which there are differentiated actors and audience. Drama suggests that there may not be an audience to view the culmination of an activity. Drama has a close relationship to dramatic play in which children seem to sense no differentiation between actor and audience. While performing, they are watching the others and themselves perform. Furthermore, they are able to analyze the performance from both the performer's and audience's point of view.

Specialist drama teaching is a comparatively recent innovation. Traditionally, the place of drama in schools was in the study of plays as literature. Some schools also investigated the social and artistic history of the theatre. Drama in this sense was the responsibility of the English department and often was focused on the cognitive

domain. Many educationalists not directly involved in drama still see this as the job drama teachers ought to be doing (O'Neill & Lambert, 1984).

As with theatre itself, the power and value of drama lies not only in the cognitive domain. The appeal of Shakespeare as a playwright is to the intuition and the affective domain. Chekov (1953) suggests that Shakespeare as poet can appeal to the intuition, until his poetry is dissected and analysed in such a manner and to such an extent that the only possible form of appreciation is intellectual. It is when Shakespeare is reduced to academic enjoyment only that Shakespeare becomes enjoyable only in a cognitive or academic manner (Way, 1967).

Bryan Way (1967) changed the way drama was taught in many schools from being focused on elocution and deportment for presentation of self on the stage to personal investigation and development. He first changed attitudes of teachers from valuing production-oriented classes to valuing experientially-based classes in which participation was of foremost importance. This was based on the notion that if education is concerned with preparing young people for living rather than for a job in life, then education must concern itself with the whole person and drama must concern itself with what role it can play in that preparation for life.

Way (1967) suggests that theatre is an activity for a few; but drama, like the rest of education, is concerned with the majority. He states "there is not a child born anywhere in the world, in any physical or intellectual circumstances or conditions, who cannot do drama" (p. 3).

Theatre and drama are very closely related even though "theatre is largely concerned with communication between actors and an audience while drama is largely concerned with experience by the participants, irrespective of any communication to an audience" (Way, 1967, p. 3). Drama activities are often an extension of interactive and innovative acting exercises. Most skills, games, and activities that are used in

drama activities can and are also used in the theatre. It is the application of these that is different.

Theatre training is interested in developing the actor's "instrument," the voice, the body, and acting skills (Hagen, 1973); whereas, drama is interested in developing the individual's understanding about human behaviour, themselves, and the world they live in (O'Neill & Lambert, 1984). Speech exercises and body work are not common in drama classes, but other work done in preparatory acting exercises are. Actors work to understand themselves better and to operate in the affective domain. In this, drama and theatre come together.

Drama, as taught as a separate subject, is often a mixture of drama and theatre. Actor training involves a great deal of drama. Training for performance must incorporate growth in self understanding which also can occur in a drama class. Performance can be a natural and educational end-product of a dramatic process of an individual or group creation. Theatre suggests a director driven process, but some directors invite and expect a great deal of individual and group creation during the rehearsal process.

The dividing line between what is drama versus what is theatre is not clearly defined. An important similarity, however, is the connection both have with play, pretend, imagination, and "doing." Investigation through theatre and drama is dependent on individuals taking on the emotional lives of their subjects of study. Heathcote (1972) suggests "the words of a play lie dead until the actor breathes upon them" (p. 162). "Breathing life" into the lines of a play requires that the actor makes sense of the words emotionally. Participants in both theatre and drama must emotionally live through experiences, whether on stage or in a classroom as if for the first time.

Drama in Teaching and Learning

The major manipulation in this study is based on the premise that drama can improve learning. There are important elements in drama classes such as a kinesthetic and imaginative investigation of concepts that may not be present in more traditional classes. In drama, students are often required to immerse themselves in the material they are studying by pretending to be the subject or aspects of the subject they are studying. Pretending and playing are closely related behaviours that tend to lower interpersonal defenses and encourage closer interpersonal relationships. These closer ties may be a factor in increased learning in the classroom for some children.

Drama is a valid and effective form of teaching and learning as well as an art form (Alberta Drama Curriculum, 1989). Slade (1954) states that drama is absolutely essential to all stages of education. He regards it as that which best coordinates all other forms of education and states, "... in my view, education through art should be the basic method in all education whatsoever, it will be seen that too high a value cannot be placed upon child drama" (p. 13). Drama is closely interwoven in the practical implementation of both the spirit and substance of "... every Education Act that has ever been passed, especially [regarding] the idea of the development of the whole person (Way, 1967, p. 2).

Researchers suggest that drama can promote many goals of education and that drama's effectiveness in teaching and learning is due to a number of factors including active learning, higher order thinking, imagination, cooperation, and social awareness (Demo, 1984b; MacGregor, Tate, and Robinson, 1977; Booth & Haine, 1983).

Active learning. Cortines (1996) maintains that the arts in general, and drama in particular, offer powerful tools for teachers in the form of activities that are active and hands-on. He proposes that the arts challenge students to move from the concrete to the abstract via active participation in an engaging medium.

Learning via teacher lectures, teacher directed explanations, and book reading can be important and worthwhile methods of instruction; however, the learners are primarily passive. Demo (1984b) suggests that educators are often reminded that varying teaching strategies such as role playing are important to help children learn because it allows participants a chance to become actively involved in their learning. Role playing can involve the whole person and learning can take place for children who prefer kinesthetic or tactile learning environments. Role playing should be used judiciously because the method of instruction should be tied to the learning goals and that too much of one form of teaching can be counterproductive (Demo, 1984b).

Hootstein (1994) suggests that learning is enhanced in drama based activities because of increased student creative input and greater self-control which can make learning relevant and interesting to the students. MacGregor, Tate, and Robinson (1977) state that drama in the classroom generates enormous enjoyment and commitment in children of all ages. Within this enjoyment are real opportunities for positive and sustained educational achievement.

Higher order thinking. Dramatic techniques are used in innovative classrooms on a regular basis. For example, Foster (1992) states, "Role playing is a time honored training device" (p. 285). She indicates that a reason for role playing's success is that it brings elements of freshness and surprise and that it calls on higher levels of thinking skills. Booth and Haine (1983) suggest that pencil and paper tests tend to examine a student's ability in the lowest levels of Bloom's taxonomy, knowledge and comprehension yet, contemporary education and curricular guides are becoming more concerned with developing higher thinking processes in children. They go on to state that "... every teacher workshop is related in some way to techniques for aiding cognitive development in pupils ... process is learning is the byword" (p. 4).

The application of all six levels of Bloom's taxonomy in teaching is possible using drama, though it has its greatest potential in the higher levels. The first level of Bloom's taxonomy involves knowledge in which students are required to memorize and recall information. The second is comprehension where students grasp and interpret prior learning (Wong, 1991). Students studying early Canadian history, for example, can apply (3rd level) their knowledge by creating a scene based on their research. This would require researching the facts (1st level), grasping and interpreting the facts (2nd level), and analysis (4th level) of the salient facts that should be presented. The presentation itself could be considered a synthesis (5th level) of the group's ideas in an organized, planned, and original form. Evaluation (6th and final level) could come about with a defense of a student's own presentation and appraisal of the presentations of others according to specific criteria.

Perhaps the most important word on the application of Bloom's taxonomy comes from Bloom (as quoted in Booth & Haine, 1983): "... the fact that we attempt to analyze the affective area separately from the cognitive is not intended to suggest that there is a fundamental separation; there is none" (p. 3). It is arguable that drama can operate effectively with the whole person both affectively and cognitively.

Heathcote (cited in Wagner, 1979) engages in a process of sense-making through drama in schools. She consciously employs elements of drama to educate in the sense of bringing out what the children already know, but don't yet know they know. Her form of drama advocates "quality" education in which students plumb the depths of dramatic role play for meaning and feeling. She encourages students to react to the situations (which are co-created by Heathcote and the students) as though they were real. Acting and reacting in the moment to the stimulus presented leads to dramatic pressure and a breaking point in which students have to move forward in understanding attitudes or values (Wagner, 1979).

Deepening the involvement in drama requires that children operate in the higher order thinking levels of Bloom's Taxonomy. The type of "thinking" inherent in an activity can be changed in a segment of role-playing by making a few crucial decisions before hand. The attention of children is directed to the exploration of the drama situation rather than the completion of a game or exercise. "Solving" a problem of how to mime opening a door is a third level skill (application). "Pretending" to sneak into the house (by miming open a door) and not get caught is a fifth level skill (synthesis).

The central objective in role playing is to go as deeply as possible into the problem or themes of the drama. For example, having children pretend to be in situations in which their freedoms are curtailed or in which they are discriminated against can touch on the higher levels of Bloom' taxonomy. Difficult or complex concepts or themes such as this can be explored in this manner, and evaluation (6th level) is often a natural extension as children are often eager to discuss and reflect on the implications of role plays.

Imagination. Imagination is the basis of creativity (Way, 1967). It is the basis for combinations of new ways of seeing, seeing different points of view, original ideas, or new relationships between ideas. It is at the root of inventiveness and adaptation. Drama can promote a spirit of inquiry, the development, modification or rejection of concepts, and ways of thinking (Neelands, 1984). Foster (1992) suggests that dramatic techniques have been proven to increase creative and imaginative thinking.

Berretta and Privette (1990) used the Torrence Test of Creative Thinking to explore creative thinking in fourth grade children. The study examined the influence of flexible drama-based activities versus highly structured art, physical education, and English activities. Children who engaged in the drama activities scored significantly higher on the posttest than children who engaged in the structured activities.

Cooperation. When any group works and builds activities together,

cooperation skills are developed. McCaslin (1996) suggests that discipline and cooperation are important elements of drama and theatre, yet children readily accept this in much the same way that an athletic team is willing to suspend personal wishes and interests for the sake of group goals and interests. Cooperation in drama is often based on mutual respect and opportunity for independent thinking and planning. Although drama, both informal and formal, is group art, it is composed of the contributions of each individual and every contribution is important.

Social awareness. Social awareness is a concept that is extremely relevant to students' lives (Hootstein, 1994). Putting oneself in the position of another is a valuable tool in developing awareness and understanding. Children must learn to live in harmony in a society of many ethnic, racial, and religious groups and drama is ideally suited to have students live in the shoes of another (McCaslin, 1996).

MacGregor, Tate and Robinson (1977) suggest that through drama, children can explore their actual social relationships at the real level, and an unlimited number of hypothetical roles and attitudes vicariously. Students may experience growth in self-confidence both in their ability to formulate and challenge ideas and in communicating and exposing their views to others. Through experiencing other people's points of view, students in drama may find out more of their perceptions and interpretations of the world.

Students becoming sensitive to the problems and values of persons different from themselves can be an important form of learning. This focused and difficult use of imagination requires stamina and commitment. Drama can be difficult work but "...of all the arts, drama involves the participant the most fully: intellectually, emotionally, physically, verbally, and socially" (McCaslin, 1996, p. 4). She goes on to suggest that art is personal expression and that drama is the most completely personal and highly socialized art form; yet students engaging in drama learn to work

cooperatively in groups, for drama is communal art in which each person is necessary to the whole. By being an integral part of a group children may gain self confidence which some authors have connected to improvements in learning (Meyen & Skrtic, 1988).

Drama based teaching may offer some students a methodology that utilizes skills that they may have strengths in. For example, drama uses an active learning approach which may assist some students who learn best through kinesthetic means, to comprehend the information given. "Pretending" seems to lend itself to higher levels of thinking. In drama, children are meant to pretend, visualize, originate, and invent, which are examples of synthesis, the fifth level of Bloom's taxonomy in which students take previously learned information and create an original whole (Wong, 1991). Imagination may play an important role for children in their ability to process or to make sense of information. Drama may be able to assist some children in academic success by helping them organize and make relevant (for them) material covered in class. Cooperation and social awareness are important basis on which the accepting and creative milieu of a drama classroom is built. This milieu, once established may help build self esteem and improve academic standing.

There may be a greater focus on and acceptance of interpersonal relationships in a drama class. Drama teachers often have students engage in playing games at the beginning of drama classes as a "warm-up." These activities are not only intended to warm up students physically and vocally, but also to create an atmosphere of enjoyment in which playing is acceptable. During the warm-up games, students often re-connect emotionally with their classmates which may include or lead to incidents of affective attunement. The creation of this milieu is important for affective and cognitive learning which can take place in a drama class.

Affective Attunement and Drama

The concept of interpersonal connection or communion has a history in theatre. Mutuality of focus, openness to one another, and similarity of affective states are commonly known and sought after in the theatrical world. Affective attunement is a common occurrence in drama classes due to the atmosphere or milieu created which has grown from theatre practice and actor training. It is assumed that an examination of how the elements of affective attunement (mutuality of focus, similarity of emotions and sense of oneness) are valued and an understanding of why they are valued in theatre is important to this study.

Affective Focus in Actor Training

Emotion *is* the language of theatre. The form that theatre presents uses words and speaks to the cognitive domain, but it's power lies in the emotional domain. Chekhov (1953) states "... the realm of art is primarily the realm of feelings" (p. 53).

Actor training in the 20th century, according to Stanislavski (1976), Chekhov (1953), Hagen (1973) and Easty (1978), requires that an actor must react "honestly" to the circumstances and emotions portrayed on stage. Each actor is encouraged to believe in and become part of the fiction of the character he or she portrays so that what is observed by the audience are "natural" reactions to situations. The actors are asked to appear to be experiencing the emotions for "the first time," to such an extent that their non-verbal cues reflect the emotions created within.

Expressive acting requires that actors have the appearance of reacting in a "truthful" manner in which their verbals and non-verbals are both communicating to the audience. Actors working from a cognitive base cannot connect the verbal with non-verbal expression as easily as actors working in the affective domain. Acting in the affective domain is responsive to nuance; whereas acting which is cognitively driven is

set and without the spontaneous ability to change. Hagen (1973) states, “An intellectual actor can intellectualize himself out of real acting impulses, while his less mentally endowed brother, provided he is not dull and insensitive, may function magnificently if he has understanding of human behaviour” (p. 14).

Chekhov (1953) indicates that though there is an important function of the cognitive mind, it should be more of an observer rather than the creator. He states that the cognitive method of “finding” a character is inferior. Chekov (1953) maintains, “In the former case [using your analytical mind] you choose the long and laborious way because the reasoning mind generally speaking, is not imaginative enough, is too cold and abstract to be able to fulfill an artistic work” (p. 71). Chekhov also feels that audiences as well as the actors should interact with a performance from an affective base.

The preference for affect-based acting, according to Stanislavski (1976), arose from his observations of performances. He felt that performers who worked from the cerebral centre versus from an emotional centre were inferior. His training method was developed in response to the melodramatic and overdone acting he observed as he was growing up in Moscow. He felt that the poorer performers gesticulated and shouted to “show” the audience that there was emotion when, in fact, there was none.

He advocated a quieter, more subdued manner of performing which was based on creating the emotion in oneself first, then allowing that emotion to be the basis of the character. Stanislavski suggested that respect for the craft of acting required that actors prepare themselves emotionally for their role in the weeks and again hours before a performance. Actors were encouraged to bring everyday life, which is full of emotional moments, to the stage. He charged his students to act as though it were the first time they had experienced the situation they were in. Stanislavski (1976) stated, “The first time you were impelled to act by your inner feelings and your intuition,

your human experience. But just now you went through those motions almost mechanically. You repeated a successful rehearsal instead of recreating a new, living scene” (p. 156).

According to Stanislavski (1976), the hallmark of “good” actors is often dependent on how deeply they can “immerse” themselves in an emotional role and allow the verbal communication (the lines of the play) to be congruent with their “non-verbals.” Students are encouraged to prepare themselves emotionally and not to perform a play in a non-emotional or cerebral manner, by merely saying their lines and moving their bodies according to what they remember from previous performances.

Stanislavski (1976) advocates a form of theatre which is more intensely connected to the affective domain. The final stages of training for his actors involve the almost metaphysical concept of “communion.” Communion, as described by Stanislavski (1976), is an interpersonal connection with fellow actors and with the audience. The notion is explained as a form of connection of the inner, invisible and spiritual aspects of people. He describes communion as “spiritual intercourse.” His description of the phenomenon suggest that there are “rays” that emanate from people and that these rays can connect with other people’s rays. The connection of the rays are communion. The amount of emotion produced influences the rays and therefore communion.

Stanislavski (1976) indicates, “When we are quiescent this process of irradiation is barely perceptible but when we are in a highly emotional state these rays, both given and received, become much more definite and tangible” (Stanislavski, 1976, p. 200). The deeper actors could believe in the roles and immerse themselves in the emotions of the role the greater of a chance of communion taking place.

The connection between actors are manifest in the form of “adaptations” or “adjustments,” which are defined as non-verbal, instinctive reactions. Stanislavski

(1976) suggests, “Each change of circumstance, setting, place of action, time - brings a corresponding adjustment” (p. 213). These adaptations are the natural personal reactions to the actions of others. Stanislavski (1976) warns actors not to turn away from natural, human adaptations to situations, but rather, use those in their performance. If actors do not have natural adaptations, audiences will quickly tire because they have “... no vital relation either to the spectators or to the characters in the play, and they become easily bored by repetition” (Stanislavski, 1976, p. 219).

The concept of communion on stage with one another is the basis of connecting with the audience. Actors have to engage in uninterrupted exchange of feelings with the audience in order to take them on the emotional journey that is suggested in the play. The performers have to commune emotionally with one another and also with the audience. Stanislavski (1976) suggests, “The audience constitute the spiritual acoustics for us. They give back what they receive from us as living, human emotions” (p. 192).

Communion in Acting and Affective Attunement

The term "communion" is used by both Stanislavski (1976) and Stern (1985) to describe a “mutual sharing of thoughts, feelings, etc. sympathetic intercourse” (Funk and Wagnalls, 1975, p. 274). Stern (1985) describes communion in an efficient, academic manner, whereas Stanislavski (1976) uses more artistic means. Stern (1985) uses the phrase “interpersonal communion” when describing the reasons why the mothers want to affectively attune. “The largest single reason that mothers gave (or that we inferred) for performing an attunement was ‘to be with’ the infant, ‘to share,’ ‘to participate in,’ ‘to join in.’ We have called these functions *interpersonal communion*” (Stern, 1985, p. 148). Mothers indicated that when they were affectively attuning with their infant they were wanting to engage in mutual communion. Stanislavski (1976) explains communion by asking his students, “Have you never put

out your emotional antennae to feel the soul of another person?" (p. 188). He goes on to use an almost spiritual way of describing communion by using metaphor rather than analytic descriptors. "It is like an underground river, which flows constantly under the surface of both words and silences and forms an invisible bond" (Stanislavski, 1976, p. 202). Then he uses the connection between Ophelia and Hamlet as an example of communion. The passage in act II, scene i, suggests that the couple are engaged in affective attunement.

Communion is used to express that which is highest or truest in their respective fields. Stern (1985) uses it as a synonym for the highest or truest form of affective attunement "... communing attunements, true attunements in which the mother tried to match exactly the infant's internal state for the purpose of 'being with' the baby" (Stern, 1985, p. 148). Stanislavski (1976) indicates that the concept of communion is so important that it is the climax of his training system. When actors achieve this, then the character comes to life. "The rest, the complete fusion of the actor with his part, happens automatically" (Stanislavski, 1976, p. 196).

Successful communication on-stage depends on an internal connection between verbal and non-verbal communication. Vitality affects are the non-verbal cues which actors and audiences watch for as indicators of a consistent and deeply held characterization. Actors who successfully perform in the affective domain communicate spontaneously using non-verbal communication just as mothers and infants communicate in the affective domain.

Vitality affects (Stern) and adjustments or adaptations (Stanislavski) seem to suggest the same phenomena. Stern (1985) suggests that it can be continuous. "Tracking and attuning with vitality affects permit one human to 'be with' another in the sense of sharing likely inner experiences on an almost continuous basis" (Stern, 1985, p. 156). Stanislavski (1976) suggests much the same idea as Stern (1985),

“Every feeling you express, as you express it, requires an ... adjustment” (Stanislavski, 1976, p. 213).

Affective attunement on stage depends upon an affective connection which is beyond words. “When we are communing with one another words do not suffice” (Stanislavski, 1976, p. 212). Stern defines the matter of communication when “words do not suffice” as vitality affects, “... those dynamic, kinetic qualities of feeling that distinguish animate from inanimate and that correspond to the momentary changes in feeling states involved in the organic processes of being alive” (Stern, 1985, p. 156). Stanislavski (1976) describes how humans respond to the “organic process of being alive.” “We use our eyes, facial expression, voice and intonation, our hands, fingers, our whole bodies, and in every case we make whatever corresponding adjustments are necessary” (Stanislavski, 1976, p. 213).

Actors and infants alike communicate in the affective domain using many different modalities (aside from speech) yet they can both be understood. Communicating across modalities is based on the “... unity of the senses, which ultimately boils down to the knowledge or experience that the world as seen is the same world that is heard or felt” (Stern, 1985, p. 154). The concept of unity of sense was used by Stanislavski (1976) to warn actors not to “... contradict their own inner feelings by gesticulations and poses that may be attractive but are not truly motivated” (p. 219). Stern (1985) stated Stanislavski’s warning in a more positive manner, “If a certain gesture by the mother is to be ‘correspondent’ with a certain kind of vocal exclamation by the infant, the two expressions must share some common currency that permits them to be transferred from one modality or form to another” (Stern, 1985, p. 152).

Though Stanislavski (1976) does not use the term affective attunement, it appears that he could have used the term when instructing his actors. Stern (1985) and

Stanislavski (1976) used some of the same kinds of descriptors such as "... maintain that flow unbroken" (Stanislavski, 1976, p. 190) and "Attunement feels like an unbroken process (Stern, 1985, p. 156).

Drama Class

The affective aspects of theatre training that have become commonplace in drama classes may cause students to have a tendency to be more open to incidents of affective attunement in a drama class compared to other classes. These aspects of a drama class may also be important in improving academic performance in some children. An important basis of this study is drama based teaching versus non-drama based teaching. This section will examine some unique aspects of a drama class in regard to affective attunement and teaching methodology.

Drama classes are often different from more traditional classes. Students are, for example, most often not required to sit in desks or to complete worksheets. The form of learning is experiential and the form of evaluation is often based on process. "Good" performances are based on acting theory and acting theory is based (in large part) on Stanislavskian and Chekovian principals.

Stanislavski (1976) and Chekov (1953) extol the importance of working from an affective base in rehearsal and performance. Stanislavski (1976) suggests a training system in which acting students work at intuitively reflecting one another's affective states. This is analogous to a criterion for affective attunement, similarity of affective states. They also stress that the process of operating from an affective base requires that there be trust between the actors and facilitators. An important element of this trust is an emotional openness to one another that speaks to another of the criteria of affective attunement, emotional openness. The third criterion of affective attunement, mutuality of focus, is inherent in the work being done. Romeo and Juliet, for example, have an extreme attraction from the first time they meet; this requires focus. In an

acting class, "focusing on one another" is an important skill which is taught and practiced.

Using drama to facilitate learning through the use of activities which promote mutuality of focus, similar emotions and emotional connections is the goal of this study. Mutuality of focus, similar positive emotions, and a sense of oneness are imbedded in the milieu that many drama instructors wish to create. These criteria for affective attunement are part of a drama class's milieu to facilitate the emotional work being done. Working in the affective domain is best done in a safe environment which often means that students realize that it is important to the group to arrive at a drama class with a positive attitude. This positive attitude results in students being supportive and attentive to one another which can lead to more positive emotional similarity and the possibility of becoming emotionally connected or "one" with one another. Thus, the cooperation and social awareness skills necessary to achieve these criteria for affective attunement are facilitated in drama class.

Children with Learning Disabilities

The purpose of this research is to assess how a particular type of classroom drama based instruction may facilitate the learning in children with learning disabilities. In order to understand how such a teaching methodology may facilitate learning, it is necessary to understand the characteristics of these children.

Learning Disabilities

Gearheart (1985) suggests that learning disabilities is the most vague and mystifying sub area in the broader field of special education due to the diversity of the group. A confusion has arisen out of the term itself (its definition), incorrect diagnosis, and specific treatments or remediation (Komm, 1982). In no other area of

special education has so much effort been expended concerning the development of a definition (Mercer, 1983). Winzer (1996) goes further stating, "Perhaps more than any other field of exceptionality, learning disabilities have generated controversy, confusion, misconceptions, and polarizations among concerned professionals" (p. 217).

Hamill (1990) identified 11 definitions that have been popular in recent learning disability history. The definitions are similar but each reflects the philosophy of the authoring organization. For example, the *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition*, (DSM IV) comes to the definition from a psychiatric diagnostic viewpoint, whereas the US public law 94-142 has a legislative slant.

In 1977, the US Office of Education (USOE) put forth regulations for defining and identifying students with learning disabilities under public law 94-142 (Mercer, 1996). It followed the National Advisory Committee on Handicapped Children (NACHC) definition that "learning disability" means "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations" (as quoted in Mercer, 1996, p. 218).

The DSM IV (1994) states that learning disorders are characterized by "... academic functioning that is substantially below that expected given the person's chronological age, measured intelligence, and age-appropriate education. The specific disorders included ... are Reading Disorder, Mathematics Disorder, Disorder of Written Expression, and Learning Disorder Not Otherwise Specified" (p. 38).

The crucial component of learning disabilities is a severe discrepancy between age and ability when compared to current levels of academic attainment. "Substantially below" is usually defined as a discrepancy of more than two standard deviations

between achievement and IQ (DSM IV, 1994). Others have interpreted "substantially below" to mean two grade levels below peers (Hallahan, et. al, 1985). The Alberta Education Special Education Services Resource Manual for Teachers (1986) does not stipulate how far "behind" a child must be in order to be diagnosed as learning disabled: rather it states, "There should be a team approach to diagnosing and teaching the learning disabled. The team approach should also apply to ongoing assessment and instructional modification" (p. 1).

Identification and assessment of learning disabilities seems to be arbitrary and vague often based primarily on the opinion of "experts." There does not seem to be a single, definitive, acceptable and reliable assessment instrument (Winzer, 1996). Diagnosis is often done by comparing scores on intelligence tests to the marks or work done by the individual. The DSM IV (1994) states, "Learning Disorders are diagnosed when the individual's achievement on individually administered, standardized tests in reading, mathematics, or written expression is substantially below that expected for age, schooling, and level of intelligence" (p. 46).

Standardized tests used in diagnosing a child's potential include the Stanford-Binet Intelligence Scale, WISC III, Peabody Individual Achievement Test, and Woodcock-Johnson Psycho-Educational Battery: Part Two (Kirk & Gallagher, 1983; Winzer, 1996; Houck, 1984). The Canadian Achievement Test: Two is commonly used in Southern Alberta.

Alberta Education (1986) indicates that diagnosis of learning disabilities in a child is a process that *should* involve intelligence testing but it seems that a diagnosis could be made without one depending on the consensus of the "team" working with the child. It states,

As a minimum, the following screening devices should be used in cases where a learning disability is suspected:

- a) An individually administered intelligence test which will provide a measure of the student's learning potential and specific strengths and weaknesses.
- b) A diagnostic reading test which will provide the following information: decoding skills (letter recognition; letter/sound association; blending skills; sight vocabulary), and comprehension.
- c) A graded spelling test which contains both regular and irregular words.
- d) A sample paragraph of the student's written expression which will allow you to assess-
 - printing versus cursive writing,
 - motor coordination,
 - capitalization and punctuation,
 - sentence structure,
 - organization of thought (section 1, p. 7)

Reynolds (1992) indicates that in most definitions, there is mention of the presence of a disorder in basic psychological process. Psychological processing refers to how an individual deals with sensory information and puts it to meaningful intellectual use. Winzer (1996) suggests that theories about learning disabilities have promoted processing deficiencies for the past 30 years. Opponents have pointed out that it is almost impossible to accurately assess underlying psychological processes because psychological processes are not directly observable and must be inferred from a child's performance (Winzer, 1996).

Learning disabilities cannot be measured quantitatively like IQ scores; children with learning disabilities do not form a single, easily identifiable handicap; and they do not form a unified homogeneous group (Winzer, 1996). The learning-disabled

population exhibits disparate characteristics in that there are no characteristics of behaviour specific to learning disabilities. Characteristics that students labeled as learning disabled display are also demonstrated with equal frequency by low-achieving students who are not learning disabled (Ysseldyke & Algozzine, 1984).

McGuiness (1985) suggests that it will never be possible to arrive at a useful definition of "learning disabilities" because of a fundamental categorical error. "Learning disabilities" acts like a superordinate category. Chairs and tables are relatively clear categories however the superordinate category of furniture is difficult to define because it could include objects such as boxes that are being used as furniture. In much the same way to subsume many types of learning problems under one heading yields a definition that has no explanatory power.

Learning disabilities is a disorder of shared attributes in which children are not cognitively delayed nor are they necessarily intellectually disabled, behaviourally disordered, visually or hearing impaired, or socially or economically disadvantaged (Reynolds, 1992). They are a group of "... related and overlapping conditions, and include vastly different populations who reveal a wide variety of behavioural, learning, social, and interpersonal problems" (Winzer, 1996, p. 217).

Learning disabilities is a syndrome of a group of children who display disparate characteristics that cause them to fail to learn appropriately for diverse reasons and therefore their academic progress lags behind that of their normal peers (Winzer, 1996). Gearheart (1986) warns that if there is evidence that the learning problems under considerations are "... primarily a result of poor teaching, lack of opportunity to learn, or cultural differences, the problems should not be called learning disabilities (p. 18). Samuel Kirk states that the identification of children with learning disabilities process is flawed. "Surveys of children placed in public school classes for learning disabilities

have demonstrated that approximately half of the children assigned to these classes are underachievers, but are not necessarily learning disabled" (quoted in Mendaglio, 1992).

The numbers of students identified and categorized as learning disabled has risen dramatically since 1963, "In the United States, according to the Twelfth Report to Congress, the number of students labeled as learning disabled has more than doubled during the past ten years (Winzer, 1996, p. 225). Johnson (1985) states that part of the reason for the increase is that there was minimal attention paid to children with specific learning deficits in the 1950s and that services for all types of exceptional children in the United States have increased in number and type, particularly those with learning disabilities.

The percentage of children diagnosed with learning disabilities seems to keep rising as recent literature shows an increase in the estimated population. Hallahan (1986) suggests that the number of children with learning disabilities ranged from 1% to 3% of the school age population in the early 1980s. In 1984, over 3% were already receiving special education under the special education category in the US.

The DSM IV (1994) estimates the prevalence of learning disorders from 2% to 10% depending on the nature of ascertainment and the definitions applied. It indicated that "... approximately 5% of students in public schools in the United States are identified as having a Learning Disorder" (p. 47). Winzer (1996) indicates that in Canada the percentage of children receiving aid for learning disabilities varies according to the provinces, ranging from about 2% in B. C. to 10% in Quebec. Price and Wiseman (1997) suggest that learning disabled children make up approximately 15% of the school population. Komm (1982) suggests that the reason for the increasing numbers is due to the traditional lag between "... the coining (or development) of a new terminology and its infusion into the classroom" (p. 433).

Remediation. Remediation for children with learning disabilities can be problematic because there is great variability in the skills they display. For example, they may be able to do some complicated things very well and then lack competence in other seemingly simple areas. These children seem to be able to remember incongruous items such as all the words of numerous TV jingles but forget simple spelling words from one day to the next (Winzer, 1996).

Remediation for individuals who are learning disabled recognizes that they do not seem to learn in the same way others do. They seem unable to "... learn through regular channels and cannot reach their full potential when taught through traditional instructional methods" (Winzer, 1996, p. 218). Yet there are authors who suggest that students with learning disabilities should be able to get more out of traditional teaching (Humphrey, Hoffman, & Crosby; 1984). Humphrey et al (1984) suggest that learning disabled students require "freedom from distractions," so they advocate a traditional "classroom as quiet as possible" or having learning disabled students "sit in the front of the room near the teacher." These suggestions indicate a conventional classroom whose focus is on traditional worksheets and textbook-based teaching strategies. On the other hand, some authors suggest alternative classroom teaching techniques when working with children with learning disabilities.

Carbo (1996) states that "everyone - not just students labeled handicapped - has varying strengths and weaknesses" (P. 9) She states that if a mismatch exists between the student and the teaching approach, the instruction itself will hinder children's learning. For example, the Fernald method of helping children to read is based on tactile and kinesthetic modes of writing and recognizing words. Children who have strengths in recalling what they touch or experience may have success in, for example, tracing a word with their finger. In this way the tactile and kinesthetic modes of learning are accessed. Kline, Schumaker, and Deshler (1991) found that constant

monitoring and immediate feedback routines served to help students with learning disabilities. Such strategies, however, are difficult to incorporate in traditional classrooms.

Slavin (1996) advocates "neverstreaming" which is "implementation of prevention and early intervention programs powerful enough to ensure that virtually every child is successful in the first place" (p. 5). Programs such as "Success for All" advocate intensive work with children when it is first noticed that there may be problems in reading or writing.

Bos and Vaughn (1994) suggest application of sociocultural theory, which highlights that learning is socially constructed for some children with learning disabilities. The basis of sociocultural theory is recognition of the importance of modeling and use of language to facilitate learning because learning is a social activity influenced by the knowledge that learners bring and that knowledge is meaningfully constructed in social activities. This form of teaching advocates utilizing social and cultural aspects from the community. Bos and Vaughn (1994) give as an example of Mexican-American students bringing aspects of home and community life into the class. This can give culturally diverse students opportunity to use resources from home that are not highlighted in traditional school curricula and to combine the often disparate worlds of school and community.

Bos and Vaughn (1994) also suggest a form of learning based on information and schema theory in which information processing is based on an interactive role between student and the information. This mode of learning advocates connecting information to the learner through integrating the new material with previously learned material and by focusing the selective attention of the learner.

Wagner (1979) suggests that often teachers inundate children with too much information without first kindling the spirit of inquiry. Drama can allow children to

simplify and illuminate the subject. This occurs when children personally identify with one particular area and use that to move into the subject area.

Behr, Snyder, and Clopton (1979) suggest that drama activities such as shadow plays, pantomime, radio plays, puppets, masks, choral reading, and performing are important to use with learning disabled children. They maintain that it is through pretending that children can understand a concept with their whole being.

It is the purpose of this study to examine the efficacy of drama techniques in which children engage with the material cognitively, affectively, and physically by pretending. Drama as a non-traditional methodology invites focused attention by the children as they interact and interpret the material in a personal manner in their imaginations.

Underachievers

Greene (1986) suggests that underachievers include as many as 50% of school age children and that many of them are diagnosed with learning disabilities. He states, "Although these youngsters have average, above average, or superior intelligence, they function below their potential in school and, often in other areas of their lives" (p. 16). Some of these children have learning disabilities but others may underachieve due to a combination of learning disabilities, family problems, and emotional problems.

Family Problems. The strain of dissension and stress of family problems may be carried to the classroom and can impact achievement (Winzer, 1996). Emotionally charged conflicts at home such as a bitter divorce or a messy child custody battle often manifest in school through reduced concentration and less care (Ysseldyke & Algozzine, 1984). Familial problems can distort children's perspectives about themselves and their ability (Winzer, 1996).

Children who have underlying familial problems may not wish to shed negative self attitudes should they experience success. Profoundly unhappy and conflicted

children do not give up their negative attitudes easily, and may find the prospect of success highly unsettling because it would require that they alter their self-perceptions. Insecure children tend to resist change and reject the unknown (Greene, 1986).

McCaslin (1996) suggests that drama can be a valuable tool in the investigation of a topic or social event. She indicates that children become the people in the situation as they study it. It is the ability to be "in role" and an observer as well that can create insight. Dramatic play is where children act out what they see occurring in their world. The acting out of these events helps children make sense of their world (Way, 1967). A drama class may be where children pretend to be certain characters with certain problems that reflect home life in the amount that the children desire. Because drama is pretend, children can maintain a performer's distance yet still experiment with problems and try to make sense of them.

Emotional Problems Cheyney (1976) suggests that learning is an emotional experience and that emotional disturbance can seriously impede learning. Emotional disturbance can manifest in behavioural disorders, the most common of which are aggressive acting out and social withdrawal (Winzer, 1996). Meyan and Skrtic (1988) suggest that emotional disturbance can be seen in a number of ways including absence of knowledge and skill acquisition in academic and social behaviors; absence of positive, satisfying relationships with adults and peers; and frequent instances of inappropriate, surprising, or unexpected behaviour.

There appears to be much controversy regarding the definition of emotionally disturbed. Serious behavioral disturbance is beyond the scope of this study; however, Kauffman (1986) suggests that the foremost characteristic of children with behaviour disorder is confusion. Greene (1986) concurs that children with emotional problems may never figure out who they are and what they want out of life.

Greene (1986) feels that in most cases, the underachieving child with mild emotional problems is simply allowed to muddle through school. He indicates that these children perform below standard and receive little or no affirmation and acknowledgment. To protect themselves from disappointment and failure, they accept limitations and lower their expectations accordingly.

Positive self-image and achievement are linked. With few exceptions, the more positive children's self image the greater their achievement (Goldberg, 1977). Unhappy children in conflict with themselves seldom possess the self-esteem and self confidence for achievement (Greene, 1986). Positive life experiences tend to produce "positive children" who are easily identified. They are confident, they like themselves, they are motivated, and they are achievement oriented. Repeated experiences of failure, frustration, and futility produce negative children who don't like themselves, and this lack of self esteem is reflected in their lack of self confidence.

Drama is often concerned with the creativity of children based on what they can do. Performances in class are often meant as an exploration of an idea that the children themselves wish to examine. A successful performance within a drama class can result in a growth of self concept (Behr et al, 1979). The step to performing outside of the drama class can be made easier for underachieving children through the support of the group.

Challenges offer opportunities for children to learn how to use frustration constructively. By confronting challenges, children may develop a sense of their own power and an appreciation for their capabilities. They also learn about their strengths and weaknesses and may discover that they must work if they are to achieve (Gearheart, 1985; Greene, 1986).

A child could not try or could give up in drama class. Most work in drama is done in groups; therefore, giving up impacts on more than just one individual. The

sense of not wanting to harm others sometimes works to keep children who tend to give up, engaged. For some children who tend to give up even the successful completion of a small roles within the group may be a step forward.

Children who are subject to learned helplessness can denigrate work they have done themselves. Children may find it more difficult to denigrate the work of a group of which they are a part. Other group members with more stable self concepts may state positive opinions about the work. They may cause children with learned helplessness to reevaluate their value with regard to the project. Children with learning disabilities often have difficulty finding positive solutions to situations (Winzer, 1996). They can not seem to create happy endings in stories. Creative drama in which children pretend to have problems and then pretend to find solutions, can be a way to teach children the skill of creating positive solutions.

The milieu in the drama room is often accepting and open to people who may not fit in easily. What may be considered "inappropriate behaviour" in a traditional classroom may be accepted in a drama class. Surprising or unexpected behaviour is not necessarily condemned in a drama class. For example, leaping up to elaborate a story with actions is often applauded in drama.

Learning Disabilities, Underachievement, and Affective Attunement

The connection of children who underachieve or have learning disabilities to affective attunement is, at the present time, unclear. Some researchers suggest that many children with learning disabilities have social disabilities as well. Whether that translates into fewer moments of affective attunement is unknown.

Affective attunement itself has not been studied in relation to underachieving children; but the social and emotional domain of children with learning disabilities has

been researched by many scholars (Winzer, 1996). Studies have dealt with many social-affective characteristics of children with learning disabled including loneliness, self-esteem, self-concept, integration, victimization, participation, student and teacher-rated social competence, and suicide.

Overview of Social/Emotional Factors and Achievement

Sabornie (1994) suggests that some low achieving children share a lack of social skills with children labeled as learning disabled. Some scholars see a connection between low academic achievement and low social standing (Hallahan, Kauffman, & Lloyd, 1985). The academically poor student with emotional problems may also have low self-esteem or may not deal well with stress or frustration. Mercer (1983) suggests that the manifestation of emotional problems are social problems that involve interactions with others.

Hallahan, Kauffman, and Lloyd (1985) imply a correlation between academic hardship and social-emotional disabilities. Mercer (1983) seems to agree, suggesting that it is "... not always apparent whether social and emotional problems are contributing to a student's academic difficulties, it appears that these aspects of a student's behaviour are usually counterproductive to learning and thus limit academic success" (p. 395). Hallahan, Kauffman, and Lloyd (1985) indicate that though a causal relationship is not clear, it is most likely that academic and social-emotional disabilities exert a reciprocal influence in which each contributes to the other.

If inappropriate behaviour contributes to academic problems, then remediation of both social-emotional and academic deficiencies is required (Hallahan, Kauffman, & Lloyd, 1985). Social skills and emotional stability may facilitate academic learning. "Moreover, they are themselves areas of learning and development that are critical for successful adaptation to the school and to the larger society" (Hallahan, Kauffman, & Lloyd, 1985, p. 150).

Smith (1988) argues that education is too narrowly conceived and that there must be a focus in schools on relationships. She states that a course should be created that "demonstrates the link between cognitive and social development and to teach specific approaches and methods to improve the ability to relate" (p. 32). She suggests that all children can profit from such a course, not just children with weak social/emotional skills; however, these children "...just happen to need to be taught social skills as explicitly as they are taught reading" (p. 32).

Academic success and the attending behaviours to such success are related to social acceptance by peers; whereas, aggressive behaviours are related to social rejection by peers (Roberts & Zubrick, 1993). Part of the problem exhibited by underachieving children may be a function of their being constantly being asked to perform at levels for which they haven't the skills. Hallahan, Kauffman, and Lloyd (1985) indicate that when academic tasks given to children with emotional disturbances were too great for their abilities, so that they experienced failure on most items, the children's inappropriate behaviour increased.

Yet children who underachieve academically, can and do succeed. Smith (1988) cites stories of successful and famous people who were academically behind their peers. For example, Cher and Henry Winkler both became class clowns as a screen to mask their academic weaknesses. Hans Christian Anderson reportedly could not read or write and dictated his stories to a scribe. Smith (1988) suggests that he had nightmares throughout his adult life of schoolmasters trying to teach him to read. Bruce Jenner and Tom Cruise focused on athletics in school to help their self esteem because they did so poorly in academic classes. Greg Louganis turned to diving to show his peers that he was not "dumb and retarded" as he had been called in school (Smith, 1988).

One of the major premises of mainstreaming children with learning disabilities is that they will benefit from interacting with non-disabled peers in terms of improved social skills and overall social competence; however, research indicates that mere physical placement in mainstreamed settings does not enhance social interactions (Conderman, 1995). If students with learning disabilities are less likely to be accepted by their peers than non-learning disabled children (Winzer, 1996), then it may be that the general classroom is the least restrictive academically, but the most restrictive socially for children with learning disabilities (Conderman, 1995).

Kauffman and Pullen (1996) suggest that students with disabilities learn unpredictably from appropriate peer modes in the absence of an explicit imitation-training program. For models to be effective, the observers must identify with the models and see themselves as being like the models. Kauffman and Pullen (1996) also indicate that to assume that all non-disabled children are "good" role models seems to be a faulty assumption. Learning disabled students may learn from inappropriate as well as appropriate models and both desirable and undesirable behaviours are found in nearly every general and special education classroom.

There has been research into social and emotional dysfunction of individuals with versus individuals without learning disabilities. The literature has been complicated by (a) defining who is learning disabled, (b) investigation of different aspects of socioemotional dysfunction (e.g., peer rejection vs. self reports), and (c) different terminology to describe related phenomenon (e.g., psycho social adjustment vs. emotional disturbance; Little, 1993). The definition of what behaviours constitute learning disabilities is also vague. Most definitions indicate that social/emotional disturbance is not a criterion of learning disability, yet most descriptions of children with learning disabilities include some social/emotional concerns (Hallahan, Kauffman, & Lloyd, 1985).

Social Characteristics and Learning Disabilities

Problems in the social and emotional areas often plague children with learning disabilities (Mercer, 1983). Hallahan, Kauffman, and Lloyd (1985) state that most authorities agree that children with learning disabilities often exhibit inappropriate social and emotional behaviour that can be a serious problem. "Most descriptions of children who are learning disabled include references to behavior that is irritating to adults, to problems in relating to other children, and to negative self perceptions" (p. 146).

Forness and Kavale (1996) found that social skill deficits characterize many children with learning disabilities. Hallahan, Kauffman, and Lloyd (1985) suggest some of the characteristics which make some children with learning disabilities less popular include that they; are poor communicators in social situations, are less adept at influencing peers in problems situations, and have difficulty in adopting the perspectives of others. Winzer (1996) suggests that other common social characteristics of some children with learning difficulties are that they "...relate poorly to peers; may be socially inept and always on the fringe of a group; have poor self-esteem and self-concept; lack judgment; do not seem to understand affective status of others from facial expressions, body movements and tone of voice; cannot keep a friend; and prefer to play with younger children" (p. 234).

Forness and Kavale (1996) suggest social deficits and academic deficits are connected neurologically. They maintain that having learning disabilities places children at greater risk for various psychiatric disorders and that social skill deficits, low self-concept and peer rejection, poor social relationships, and under achievement in children with learning disabilities emanate from a common neurological origin.

Children with learning difficulties are often rated by others as having social weaknesses. Conderman (1995) found that children with learning disabilities earned

lower scores on teacher rating scales. They also received more negative and fewer positive votes on a forced-choice sociogram compared to a random sample. Hallahan, Kauffman, and Lloyd (1985) state, "On the basis of research evidence, we can say that many learning disabilities children (1) are rated by adults as having behavior problems, (2) are not well liked by their peers and do not relate well to them, (3) appear to behave differently in interactions with regular and special teachers, and (4) show evidence of faulty social cognitions" (p. 146).

The social status of students with learning disabilities has been a topic of considerable interest to researchers for decades. Studies since the early 1980s have shown that students with learning disabilities are less accepted by their peers (Mercer, 1983). Generally students with learning disabilities occupy positions of lower social status than their non disabled peers. The low social status due to social failure causes some students with learning disabilities to lead lives dominated by exclusion. These negative factors that are associated with being isolated or rejected by peers may create critical barriers to successful mainstreaming (Conderman, 1995).

Yet these barriers may be created by the label of learning disabled itself. Conderman (1995) found that students with learning disabilities received fewer votes on questions measuring physical attractiveness and athletic ability. Having a learning disability does not preclude a child from being attractive or athletic. Relatedly, Roberts and Zubrick (1993) found that regular class students used different standards when judging the social acceptance of students with disabilities than their peers without disabilities. Students with mild disabilities were found to be liked significantly less than their peers without disabilities. However, the regular students did not rate the students with learning disabilities as being more disruptive or unpleasant; nor was there a difference in the amount of disruptive or unpleasant behaviour displayed by either group (as rated by outside observers).

Coleman and Minnett (1993) indicate that though some children with learning disabilities are rejected by their peers, this is not the case for all. Some of these children are considered popular and they share many characteristics of popular children without disabilities. Coleman and Minnett (1993) caution that children with learning disabilities who are viewed unfavourably by their regular classmates represent only a small subsection of a larger group of socially rejected children. Conderman (1995) found that 50 to 70 % of the students with learning disabilities were found to hold positions of at least average social status.

Emotional Characteristics and Learning Disabilities

Researchers suggest that some children with learning disabilities are "at risk" emotionally as well as academically (Huntington & Bender, 1993). Others suggest that while there is a connection between academics and children's self worth regarding academics, there seems to be little connection between global self concept and academic achievement (Bruck, 1986; Sabornie, 1994).

Many adolescents with learning disabilities have impaired emotional development as well and these students appear to be at increased risk for severe depression and suicide. Huntington and Bender (1993) indicate that adolescents with learning disabilities demonstrate higher anxiety levels, more frequent bouts of depression, and higher rates of suicide than adolescents without disabilities. McBride and Siegel (1997) suggest that adolescents with learning disabilities constitute a disproportionately large percentage of adolescent suicides compared with the general adolescent population.

Hallahan, Kauffman, and Lloyd (1985) cite research that infers that children with learning disabilities (a) show the same types of problems as emotionally disturbed children (but to a lesser degree); (b) were rated higher on conduct disorder, immaturity, and anxiety-withdrawal dimensions than were non-learning disabled

children; (c) were rated as having more behaviour problems than non-learning disabled children (especially boys); (d) were rated by parents as having poor verbal ability, did not like to listen, were difficult to talk to, had difficulty expressing themselves, and found it hard to control their impulses; and (e) were rated by teachers as less cooperative, less attentive, less able to organize themselves, less able to cope with new situations, less socially acceptable to others, less willing to accept responsibility, less able to complete assignments, and less tactful than their classmates.

Bruck (1986) found that there was no clear evidence that children with learning disabilities were significantly more deviant in terms of serious behavioural or emotional dysfunction than children without learning disabilities. They did, however, appear to have more adjustment problems such as immaturity and were less popular with peers. Bruck (1986) suggested that these adjustment problems were most likely a result of failure and frustration rather than an integral feature of learning disabilities.

One of the most frequently examined affective traits of students is their self-concept. Some research has shown that self-concept among children with learning disabilities as it relates to school is problematic (Winzer, 1996). But other studies (e.g., Sabornie, 1994) regarding global self concept show no significant difference between students with learning disabilities and others. Sabornie (1994) suggests that some children with learning disabilities are able to compartmentalize their lack of success in school and that their academic self-concept is different and separate from their general self-concept.

Social/Emotional Factors and Affective Attunement

There are characteristics of children with learning disabilities that may interfere with becoming attuned with other individuals. However, in specially constructed classroom settings such as a drama class, it may be that the interfering effects which impede affective attunement may be eliminated or reduced.

Problem behaviours. Roberts and Zubrick, 1993) found that students with mild disabilities were liked significantly less than their peers without disabilities. Mercer (1983) states that students with learning disabilities frequently have trouble behaving, do or say inappropriate things (such as teasing or interrupting conversations), have problems making friends, and are disruptive at home and in class. These activities may indicate that children with learning disabilities have a reduced potential of experiencing affective attunement. It may be the case that when situations are structured so that disruptive social/emotional behaviours do not occur or are not perceived as inappropriate, then perhaps affective attunement could be possible.

Behaviours that would be deemed inappropriate in a traditional classroom may not be interpreted as such in a drama class. Students in drama often work in small groups in which they co-establish the rules of conduct and it may be that within their groups a greater range of behaviours is accepted. It may also be that students behave more appropriately when they work in small groups.

A teacher can create a milieu that encourages social interaction within the context of exploring other subjects. Successful social interaction within this form of exploration may add to the children's behaviour repertoires important to positive interpersonal behaviour. Thus this form of success could improve self concept and increase social skills. It may be that improved social skills could lead to increased incidents of affective attunement.

Hyperactivity, distractibility, and impulsivity. Mercer (1983) states that a common social/emotional factor that accompanies learning disability is hyperactivity. Hyperactive children engage in excessive motor activity that is usually purposeless. They are easily distracted, restless, irritable and have short attention spans (Winzer, 1996). Distracted children cannot concentrate fully on specific activities. Irrelevant and inappropriate stimuli can become overpowering (Mercer, 1983). Focus is a criterion

for affective attunement. If a child cannot focus, it would suggest that affective attunement would less likely occur.

However, if drama can help children with learning disabilities to focus for even short periods of time, affective attunement could be possible. Children may be particularly drawn to specially constructed social situations within a drama class in which their attention is focused by the activity. They may find the heightened positive affective state and psychological safety helps their concentration. Role playing relies on spontaneous reaction to stimuli. Students who are easily distracted and active may gravitate to situations designed to utilize spontaneous interaction and heightened energy levels which match their own.

In a drama class in which movement is encouraged it may be that some of the activities that impulsive children engage in would not be deemed disruptive. This wider view of what is considered acceptable behaviour may allow some children to feel more at ease and less anxious, which could translate into greater attention and thereby increased academic success. Restless children who are given greater freedom to move may react with positive emotions and interact with other children in a positive manner. This could improve the possibility of affective attunement.

Impulsive students talk or act quickly without considering the consequences. They may finish tests quickly without checking their answers or rush to be first in line (Mercer, 1983). This behaviour may not necessarily impede affective attunement. Impulsivity could suggest an openness and readiness to engage in interpersonal relationships. It could be that this type of child may be more interested in engaging with someone else, and that hurriedly finishing a test, in fact, indicates this desire. Finishing an assignment quickly could be a route to engaging with someone which could lead to affective attunements. Thus, although distractibility and impulsivity would seem to interfere with affective attunement, it may be that these features can be

used to increase focus and excitement if a situation could be designed which employs them.

Social perception. Students with learning disabilities often do not understand social cues such as facial expressions, hand and arm gestures, posture, tone of voice, or general moods. Mercer (1983) suggests that they often do not grasp the significance of non-verbal communication (e.g., judging emotions or assessing affective expressions). Children with learning disabilities may, for example, confuse the emotion of embarrassment with that of joy, and thus be viewed as insensitive toward another individual's feelings (Mercer, 1983). Disruptive behaviour of an extreme aggressive nature towards others may be the result of a child's inability to understand non verbal communication. Fighting, temper tantrums, and using inappropriate language such as sarcasm or swearing may be the end result of a chain of events that began with misinterpretation of social cues.

A drama based learning situation that clearly guided the children how to behave and created a safe emotional milieu could reduce the situations that could cause the frustration and bewilderment that some children seem to experience in social situations. It may also increase the potential of affective attunement occurring. It is assumed that affective attunements occur when two individuals have similar *positive* emotions. The safe atmosphere in a drama class may reduce the necessity of acting out to gain attention or to release frustration, thus increasing the likelihood of positive interactions and thereby increasing incidents of affective attunement.

Poor self concept. Mercer (1983) suggests that self concept can be directly related to achievement. Students can have a lowered sense of self worth due to academic failure. If this leads to withdrawal, this may prevent them from having positive interaction with peers. For example, working, playing, and eating alone likely reduces the potential moments of affective attunement.

Children who are weak in writing or reading may not be successful in a class based on traditional modes of teaching. However, a lesson based on drama methodology may allow children with poor self concepts (due to lack of academic success) to use modes of expression in which they have better skills. For example, drama is primarily a group activity; therefore students who have spontaneous interactional skills may be able to succeed in a drama based situation in which spontaneous behaviour is valued as compared to more traditional classes.

Drama based activities may create situations in which there is an increased likelihood of affective attunement for children with low self esteem. For example, there may be more chances of children with low self esteem connecting with other children within small groups. Also the accepting milieu in a drama class may encourage children with low self esteem to risk engaging in interpersonal interactions.

Dependency. Many learning disabled children exhibit over dependency on parents, teachers, and others by requiring excessive help, reassurance and assistance in various activities. When such students are confronted with difficulties in performing tasks, they seek others to help them. If they can not do that which the social environment requires of them, they may revert to helplessness and dependency as strategies of coping. Dependency may not hinder affective attunement, in fact it may be the case that children who are dependent on receiving help from others may more easily affectively attune.

Drama and Underachieving Students

Arts in Education and Children with Learning Disabilities

Advocates of the arts in education argue that the arts are not only a means of building talent or a therapeutic expression of deep-seated feelings, they can and should

play a central role as tools to further academic learning (Selman, 1992; Smith, 1988a; Way, 1967). Smith (1988a) suggests that the arts can ignite the whole learning process for children with learning disabilities if they are central to education. She suggests that for underachieving children, "It is a mistaken idea that the arts are 'frills,' useful only as after-school activities" (p. 10).

Smith (1988a) maintains that there is a developmental sequence in the arts that schools should see as essential to quality education, especially for students with learning disabilities. The arts are a universal language that carries symbolic meaning, understood without words and before words. Smith (1988a) suggests that this can be seen in little children; "They understand gesture, rhythm, tone, and movement before they understand words. They sing and croon before they speak. They draw and paint before they form letters. They dance and leap and act out stories before they can read" (p. 11).

Valett (1996) indicates that children in Special Education Programs need activities that may be noisy, active, or "fun" even if these are deemed "non essential" by some educators. He maintains that activities such as art, drama, and music are essential to schooling children with special needs and that emphasizing only basic academic skills is a mistake. Special education students need self control techniques which are used regularly in the arts such as tension reduction, relaxation, focused attention, biofeedback, visual imagery, and verbal rehearsal strategies (Smith, 1988a; Valett, 1996).

The United States Senate Committee on Labor and Public Welfare recognizes the value of the arts. It states "... the use of arts as a teaching tool for the handicapped has long been recognized as a viable and effective way not only of teaching special skills, but also of reaching youngsters who have otherwise been unteachable" (in Smith, 1988a, p.14).

Drama in Education of Children with Learning Disabilities

Selman (1992) advocates that theatre and drama can effectively provide information, increase awareness, change attitudes and develop skills in individuals and groups at risk. McCaslin (1996) promotes drama as an ideal way of working with underachieving children because it helps them experience positive interpersonal relationships, fun, emotional release, mental stimulation, personal satisfaction through success, and opportunities to use and stretch their imaginations. Brook (1968) suggests that drama is an ideal tool to encourage imagination and originality because there are no wrong ways of doing things, only potential. O'Neill (1995) states, "Drama gives voice to our students. It allows them to discover and express their own experience in relationship to the art form they are working in" (p. 12).

Order and Sequencing. Many children with learning disabilities are delayed in development and a common problem is "scattered" attention (Mercer, 1983). Children with attentional difficulties cannot integrate several processes and assign priorities. They are subject to too much information at once; everything going on in the classroom often distracts them from paying attention to their given task. They are not able to filter out the irrelevant and unnecessary information automatically (Smith, 1988a).

The kind of order that comes by engaging in drama activities can help children order their worlds, make sense of what they know, relate past experiences to present, turn muscular activity into thought, and put ideas into action (O'Neill, 1995). Drama has been successful in providing a form of discipline that is compatible with learning disabled children (McCaslin, 1996). Through drama, children can learn to discriminate and organize experience through all their senses. O'Neill (1995) suggests that drama emphasizes learning to look and listen with a purpose which can enable children with learning disabilities remember what they saw and heard.

McCaslin (1996) suggests a progression of steps to every creation is inherent in drama. The freedom of expression in drama is improved when children have mastered a set of basic skills and can organize themselves. The learning disabled student who is victim to the disorder of indiscriminate attention and overreactiveness needs experiences that have a clear beginning, middle, and end such as those found in drama. Organization that children gain in drama can be applied to reading or writing (Smith, 1988a).

Integration with other subjects. Drama can serve as an integrative force in children's learning (Siks, 1977). Opponents to an integrated curriculum argue that knowledge is organized into logically discrete forms so that each form has its own distinctive logical structure consisting of a network of central concepts which order experience and a set of skills and techniques and methods of validation by which its claims can be tested and verified (Clark, Dobson, Goode, & Neelands, 1997). Hodgson and Richards (1972) state, however, that information is learned, internalized, and dealt with in a holistic manner. They also maintain that drama is an ideal form for people to explore topics and their interrelationships in an integrated, living, and dynamic manner. Clark et al (1997) suggest that people have always integrated knowledge regardless of the source of the information and that the integration is based on a holistic type of "felt knowledge." This form of integrated understanding occurs when meaning "resonates" with an individual and that is done efficiently through drama (Clark et al, 1997).

Way (1967) states that drama can be important for very pragmatic reasons such as the restorative effect of a few minutes of active drama for tired, strained and possibly bored minds. In this way drama need not interfere with a crowded curriculum; rather, it can be an augmentation of education which facilitates examination of the topics in another domain.

Joy and humour. Valett (1981) indicates that most children with learning disabilities have underdeveloped senses of humour and work in the arts can be used to develop humour. Humour has the very important role of being able to decrease tension and anxiety, increase interpersonal communication and understanding, and to increase interest in the varied meanings of words and ideas communicated (Valett, 1981).

Heathcote (Wagner, 1979) suggests that moments of "crisis" which happen in drama are often dealt with using improvisation, ingenuity, and humour. The creative process in putting on a play or a dance can be serious work, but Smith (1988a) associates it with much laughter and camaraderie. Drama gives children and teachers opportunities to engage with one another. This offers the potential for something joyful to happen such as laughing, thinking, or singing together (Brewster, 1977). With drama activities comes a great deal of laughter, partially because there is a freedom to express; ideas and actions are accepted, not blocked (Johnstone, 1981).

Brewster (1977) states that his underlying reason for "doing drama" with children is that it is so alive, and so are they. He concludes that drama is important for children with disabilities because needs are expressed, clarified and sometimes met; abilities and disabilities are discovered and explored; and each child is provided with an opportunity to know a little more about the self and to feel exhilarated by the creative and communal spirit. Way (1967) asks, "Are the factors of happiness and well being any less important than physical prowess and intellectual achievement?" (p. 4).

Personal Fulfillment. Personal experience with the world contributes to making sense of the world and how one fits into it. After a child has graduated from school, some part of human happiness and well being is dependent on the development of individual uniqueness, which is dependent on personal aspiration (Way, 1967). Working in drama can create opportunities for exploration of an individual's personal

aspirations which is a vital first step in fulfillment of personal aspirations (Way, 1967).

Giangreco (1996) urges educators to continually evaluate whether students with disabilities are applying their achievements to real life, by looking at (a) the effects on their physical and emotional health; (b) their personal growth and positive social relationships; (c) their ability to communicate, advocate for themselves, make informed choices, and contribute to the community; and (d) their ability to choose and access places and activities that are personally meaningful. Way (1967) maintains that emotional well being is dependent on inner resources that may atrophy if not in constant use. He suggests that in education, drama is not just another academic subject concerned with the development of intellect. It is concerned with the development of intuition, which is no less important than intellect and is part of the essence of full enrichment of life, both for those who have intellectual gifts and those who have not. He states "... intuition, like intellect, needs training, though not the same kind or means of training. With intuition, all individual differences are developed to their full; there is no single criteria of what is right or wrong, or good or bad" (p. 7).

Caring. Wagner (1979) suggests that to effectively teach children with learning disabilities, teachers must identify solidly with the learners, just as they must with any other students. She states, "If these learners seem very different from the teacher, he or she has a harder task, but the gap must be bridged; if not, the learners will sense that their teacher is just another person who is alien to themselves" (p. 210).

Amies, Warren, and Watling (1986) argue for a return to a caring human interaction based curriculum, especially when dealing with marginalized groups. They state that education must return to its basics in caring; "... the absolute basics of education, not those supposed basics imposed by pragmatics during times of economic restraint, but the real basics of education, namely the human interaction between

individuals within a learning environment" (p. 114). If a caring teacher is important, then teaching underachieving children requires that teachers have to rely more on who they are than on what they know (Wagner, 1979).

Foreman (1990) describes the moment when the cast of a play suddenly merge into an ensemble. This merging into an ensemble also occurs in drama classes and is a direct consequence of the choices made by many drama teachers. A drama teacher strives to make the disparate individuals at the beginning of drama into an intact, cohesive and supportive group. The group includes the drama teacher who leads by modeling and supporting the characteristics that are important in drama: caring, risking, and humour (Wagner, 1979).

Experience success. Teachers working with students who are learning disabled have the difficult task of often overcoming anxiety, developing motivation, and finding techniques that promote successful experiences (Hoy, 1984). Brewster (1977) suggests that an important stepping stone to experiencing success is to develop children's ability to play with ideas, to try ideas out, "... to see how they feel, to change them, try them out again and again, to develop the habit of exploring, exploring, exploring" (p. 197). Smith (1988a) states that "... In the arts a child can experience that exhilarating feeling of 'I can do it!'" (p. 12).

A reason the arts are especially compatible with exploration and experimentation lies with the artists themselves. Nachmanovitch (1990) suggests that artists engage in a process of making mistakes and learning from them. This process can serve as permission for underachieving children to make attempts and perhaps make mistakes and yet survive. Fear of failing can be more devastating than failure itself. It can lead to paralyzing inertia in which individuals may refuse to make decisions for fear of making the "wrong" decision. Wagner (1979) maintains that the value of drama lays in the number of choices that must be made in a safe environment.

She uses Heathcote as an example, who "... never removes from a class, no matter how disabled, the primary challenge of taking decisions and acting on them. Her goal is to help them discover their own competence and that cannot be done if she becomes just another adult who 'takes care them'" (p. 212).

Brewster (1977) states that children with handicaps have many more commonalities with "normal" children than differences. He suggests that through imaginative drama experiences, students at-risk can concentrate (in a successful and enjoyable form) on what they have rather than what they don't have. Smith (1988a), for example, believes that often children with hidden learning disabilities also have hidden talents in artistic areas.

Drama as a Tool for Change

Individuals require a highly developed sense of empathy and perspective through which they understand themselves and the motivations, drives, and feelings of the other people. Becoming another person through dramatic enactment can be an efficient way to improve interactions, relationships, and social structures in people who may lack social competence (Emunah, 1994). Improved social skills found in a drama class can lead to increased incidents of affective attunement and academic performance

Drama is intimately connected with community building. Dramatic rites and rituals were ways in which communities confronted fear, symbolized hopes, celebrated joys, prepared for real-life events, and achieved a sense of control and empowerment (Emunah, 1994). Brook (1968) believed that as a result of the drama, "... something is more animated, something flows more freely, some embryonic contacts are being made between previously sealed off souls. When they leave the room, they are not quite the same as when they entered" (p.134). Creating community in a drama class may

increase the potential of affective attunement because of the increased focus individuals have for one another.

Another way to view drama as a tool to facilitate change is to consider the talents children have. Gardner (1983) suggests that there are seven intelligences that are required for living and that schools have focused too narrowly on the specific intelligences of linguistic ability (that deals with language producing as well as sensitivity to the order and rhythm of words) and logical-mathematical ability (that deals with reasoning ability and manipulating abstract patterns and relationships). Children with strengths in these areas will probably do well in school as these skills are what schools primarily measure in pencil and paper tests. However, drama classes can value and utilize children's strengths not valued in other classes. Strengths in such areas as interpersonal intelligence and intrapersonal intelligence are important in drama classes and can be developed into successful lives once students leave secondary school. Deficiencies in reading or writing may cause children with learning disabilities to have difficulty in traditional classrooms; however, drama classes focuses on different intelligences and may help those children find out what they are good at rather than what they are not good at.

Using a variety of teaching strategies for different learning styles can take advantage of different strengths in various domains or intelligences. Giangreco (1996) questions whether passive, didactic approaches meet most students' learning style needs. He quotes a teacher speaking of a student with learning disabilities. "He wouldn't get much out of being in that class because the teacher does a lot of lecturing, and uses worksheets and paper-and-pencil tests" (p. 58). Giangreco (1996) then asks whether that educational approach is also a mismatch for students without disability labels? The presence of a student with disabilities may highlight the need for a variety of approaches for all students in the class. A wide range of students may be well

served by activity-based learning such as individual or cooperative projects, use of art media, drama, hands-on experiments, field study, computers, educational games, multimedia projects, or choral responding (Giangreco, 1996).

Kauffman and Pullen (1996) caution against using only one style of teaching. They state that one of the eight myths regarding special education is that there is one super effective instructional method through which all students can learn. Educators have been told that if only they use method "X" as prescribed by its developers, academic success will happen in the classroom. The reason for the hard sell is, "In today's socio-political climate, not claiming that it will provide success for all or candidly admitting that some students will fail is likely to be the kiss of death to an educational endeavor" (Kauffman & Pullen, 1996, p. 2).

Prentice and Cousin (1993) created an integrated curricular program incorporating art, literature, and drama to help middle school students with learning disabilities. They found that the non-traditional teaching methods were more consistent with how the students were able to learn and wanted to learn. Gearheart (1985) states that multisensory approaches have received recognition and support from remedial reading and special education authorities for many decades. Maria Montessori utilized a multisensory approach successfully with students who were mentally retarded in the late 1800s. Multisensory approaches use kinesthetic and tactile based teaching as well as the more traditional visual and auditory approach.

Kinesthetic learners recall what they experience; can follow instructions that they perform or rehearse; learn when engaged in physical activity such as playing floor games, assembling or disassembling objects, or building models; like to participate in fairs; set up experiments; engage in scavenger hunts; and find acting and role playing easy to step into (Carbo, 1996). They like to learn by pantomiming, acting in plays, engaging in readers theatre, riding a stationary bike while listening to a book, having a

book read to them while colouring, and by reading instructions and then building or doing something (Carbo, 1996).

Gearheart (1986) states that social "imperception" is the inability to read body language (particularly facial expressions) of other students and adults (particularly parents and teachers). This often is manifest in children with learning disabilities who have difficulty in determining when other students accept them or their behaviour. Speer and Douglas (1981) suggest role playing activities as an effective method to emphasize the possible effects of verbal interactions and the emotions on others and themselves. Situations showing a variety of emotions such as grief, joy, fear, and excitement, may be dramatized and discussed.

Sugai and Lewis (1996) advocate that students with learning disabilities engage in behavioural role plays in which the students practice the desired social skill under controlled conditions. Rehearsal can help children understand what was inappropriate in their patterns of behaviour and learn what is acceptable. The learning takes place in a number of domains including aural (hearing the information), visual (seeing the inappropriate behaviour), kinesthetic (rehearsing the wanted behaviour), and tactile (gaining a body or feeling based understanding of appropriate behaviour). Even children with severe social skill deficits have been successfully taught using role play and problem solving steps that were rehearsed with the therapist (Hallahan, Kauffman, & Lloyd, 1985).

The present study examines drama methodology compared to more traditional methodology with teaching children with learning disabilities. The literature regarding children with learning disabilities and drama seems to be optimistic about the use of drama; however, there seems to be little quantitative evidence. Rather, authors relate from personal experience what "works" and suggest reasons why they believe it "works." The literature seems to suggest that a drama based methodology may help

children with learning disabilities in a number of areas including interpersonal relationships, organizational skills, and motivation to want to learn.

Present Study

Purpose

The general purpose of this study was to examine the effects of drama based instruction and affective attunement on academic performance (test scores in core subject areas) and satisfaction scores of children with and without learning disabilities.

Design

Students with learning disabilities and without learning disabilities were exposed to two types of teaching. One was drama based and the other used a "traditional" teaching methodology (e.g., worksheets, filmstrips, textbooks, journal writing). Each type of teaching was applied to the different contents (Mathematics or Social Studies). Every student received each type of teaching and each of the contents but in different combinations. All teaching was consistent with the Alberta Teachers Association's expectations of teachers and did not contravene the Child Welfare Act from Alberta Education. All teaching was done by the researcher, a certified teacher. The students were video taped during the teaching lessons. Before and after each lesson, the students were given a pretest and a post test to assess any change in academic performance. After both lessons were completed, each child completed a satisfaction scale which assessed their satisfactions for drama versus non-drama based teaching.

Hypotheses and Rationale

Hypothesis 1. It was expected that there would be more incidents of affective attunement in drama based teaching among the students and between the teacher and students than in the non-drama based lessons. The rationale were: (a) The focus in drama based teaching is on play, providing a safe emotional environment, and operating in the affective domain in order to create a milieu in which students may have a greater potential to have similar positive emotions than in more traditional classes.

Simultaneity of emotions is one of the three criteria of affective attunement. (b) Group work in drama requires that students focus on one another when discussing ideas, rehearsing, and performing. Mutual focus is another criterion of affective attunement. (c) Performance theory dictates that students operate in the affective domain and strive to have "communion" or a sense of oneness with one another and the audience. This is the third criterion for affective attunement. (d) Teachers in drama classes exhibit and support the types of interpersonal relationships behaviours that are conducive to affective attunement. (e) The content and process of drama based teaching often deal with students experimenting with various interpersonal behaviours including affective attunement.

Hypothesis 2. It was expected that there would be greater improvement in the academic performance of children exposed to drama based teaching than non-drama based teaching. The rationale were: (a) Greater amounts of affective attunement in the drama condition may connect the content being studied with a positive affective experience which may encourage the children to learn the material more readily and retain the information for longer. (b) Greater amounts of affective attunement with the teacher may increase attention and responsiveness of children to the teacher and thereby increase learning. (c) The teacher exhibiting and encouraging the types of interpersonal behaviours conducive to affective attunement could lead to a more relaxed

atmosphere in which children could feel more accepted and motivated. The sense of acceptance may improve self concept and attention which may improve academic performance. (d) The greater frequency of affective attunement in the drama condition may add to the playful investigation of the topic which may improve learning.

Hypothesis 3. It was expected that children with learning disabilities would show greater improvement in academic achievement compared to a group of children without learning disabilities in drama based teaching than non-drama based teaching. The rationale were these: (a) Children with learning problems may be more comfortable learning in the affective domain. That is, although these children have difficulties in the cognitive domain they may not necessarily underachieve in the affective domain and may be more motivated to learn in the affective domain. (b) Underachieving children will be in an environment in which they will not be singled out as failing. This may increase their self concept, involvement, and attention. (c) While working in the affective domain, children with learning disabilities will be able to engage in role play, game playing, spontaneity, and emotional connection which may increase affective attunement and improve attention. (d) Underachieving children may become disinterested in the non-drama based teaching because the affective or physical domains are ignored. (e) The children without learning disabilities may understand the cognitive points in the non-drama based teaching and therefore remain engaged.

Hypothesis 4. It was expected that there would be greater satisfaction shown for drama based teaching than non-drama based teaching. The rationale were: (a) Children may prefer the greater frequency of affective attunement in the drama lessons. That is, the increased affective attunement which is encouraged by the activities in the drama based teaching (e.g., dramatic play, role play, game playing, spontaneity) may be enjoyable for the children. (b) Children may enjoy the novelty of learning in the affective domain. (c) The drama lessons encourage active, creative input from the

children which may increase their enjoyment of the lessons. (d) The children may enjoy the milieu of drama based teaching in which mutuality of focus, simultaneity of emotions, and a sense of oneness are encouraged.

CHAPTER TWO

RESEARCH METHODS

Participants

Investigation into the feasibility of the study began approximately 12 months before the experiment took place. It was important to determine (a) if teachers would want to have a researcher come into their classrooms, (b) under what conditions, (c) which grades would be most suitable, and (d) what teachers wanted taught to their classes. It was found that grade four teachers were the most receptive to research being conducted in their classes.

Approval was sought and gained from a number of organizations. Ethics approval was first gained from the Department of Educational Psychology Ethics Review Committee and the Faculty of Education Joint Research Ethics Committee (University of Calgary). Then the Horizon School district and the Lethbridge Public School Board (covering three communities in Southern Alberta, Lethbridge, Barnwell, and Taber) gave approval for the project. Principals from six schools were contacted and approval was given: Dr. G. Probe Elementary, Lakeview Elementary, Senator Buchanan Elementary, Westminster Elementary, Barnwell School, and L. T. Westlake School. Eight teachers within these schools were approached and gave consent to be involved with this project. The cooperating teachers indicated that socioeconomic status of the students ranged from low to upper middle class.

Children in eight classes (N=203) were given the covering letter and consent form (Appendix A) describing the study after a short explanation of what the study was about and what would be required of them. During the explanation

(approximately 10 minutes long), the children were informed about the pretest and the post test and it was made clear that they would be video taped. Students were encouraged to ask questions. This usually took less than 5 minutes. Some common questions (and answers) included, whether the test results would affect their report card grades (no); what they would do if they did not participate (each teacher had an alternate activity for those children); and if there would be a camera operator video taping the class (no, the video camera was stationary).

The children were asked to take the two-page letter (explaining the experiment and potential benefits and risks) and the one-page consent form home to their parents. They were told the consent form was to be signed by their parents. There were 178 children who participated in the lessons (an 88% return rate); of these, there were 24 pairs of children chosen to be the study sample, with each pair containing a child with learning disabilities and a child without learning disabilities matched in terms of gender and age. That is, all 178 children participated in the lessons but only the scores of 48 children were used in this study.

Children were operationally defined as having learning disabilities if they were experiencing problems academically and were in independent progress programs (IPPs). These children displayed behaviours such as (a) not being able to concentrate or sit still, (b) reading, writing, or mathematical skills far below the expected grade level, or (c) not seeming to care about their academic performance. This sample of children in IPPs had the following traits in common: (a) learning disabilities, (b) ranked in the bottom 25% of the class on most normed tests, (c) reading level was at least one grade below grade 4, and (d) generally achieved below the class average in all academic subjects. The children in these programs were often removed from class for remedial work or the teachers would give them assignments that were adapted to suit their needs better.

The 24 children in IPP programs in this study were chosen based on (a) completion of a signed consent form, (b) a teacher's recommendation, and (c) amount of time and quality of picture in the video recordings of the class. That is, this study used intact classes; i.e., the matched pairs of children with and without learning disabilities were tested with their classmates whose parents gave consent. The video camera was positioned to record the whole class in interaction. However, some children in the periphery of the video frame were sometimes "out of frame" or too far away to accurately observe. Thus, in choosing participants for the study, IPP students and their matched counterparts who were out of screen for more than five minutes were not used. This meant that students who left the room for extended periods of time to go, for example, to the bathroom were also not used. Table 1 presents an overview of the IPP and non-IPP students participating in the study. "Class size" refers to the total number of students registered in the class, whereas, "total # participating" refers to the total number of students who had returned consent forms and were allowed to participate.

Materials

Core Curriculum Subjects

This study used drama within two core curriculum subjects taught in grade four in Alberta. An important aspect of this study was to examine the efficacy of drama based teaching within core curriculum areas. Thus, it was deemed important that the study deal with more than one core subject area. After discussion with teachers, the two core curriculum subjects chosen were Social Studies and Mathematics. The specific topic chosen within Social Studies was the Great Depression and the specific topic chosen within Mathematics was estimating measurement.

Table 1. Overview of participating students

Class	Class size	Total IPP students	Participating IPP students	Participating non-IPP students	Total participating
1	29	5	4	22	26
2	16	3	3	13	16
3	29	5	3	19	22
4	29	3	3	23	26
5	14	4	4	10	14
6	29	8	8	14	22
7	31	3	3	26	29
8	26	5	3	20	23
Totals	203	36	31	147	178

The Great Depression. The Great Depression is included in the curriculum guide under Topic B which "Focuses on the people who have contributed to Alberta's history and development, beginning with the original inhabitants, and tracing the people in Alberta's history" (Alberta Education, 1989, p. 160). Grade four teachers in Alberta are not required to deal specifically with the Great Depression; rather, it is one of five option areas that teachers may have the children investigate. The other possible option topics from Topic B are (a) a homestead settlement, (b) immigration of a specific group, (c) World War II, or (d) the boom years (1947-).

Estimating Measurement. The teachers seemed diligent about covering the material in the math textbook they were using, such as fractions and decimals, geometry, and graphing. However, they all felt that measurement was not covered adequately. The teachers suggested that a single 45-minute lesson focused on estimating measurement would be a good review. Role Playing and drama activities are

occasionally suggested as modes of learning in the Social Studies curriculum guide; whereas drama is not suggested as a potential form of teaching and learning in Mathematics. Therefore, the use of two very different teaching topics would shed light on the generalizability of the effect of drama based teaching on student performance.

Materials for Lessons

Drama and non-drama based teaching. Four different lesson plans were created: (a) a drama based lesson on the Great Depression, (2) a non-drama based lesson on the Great Depression, (3) a drama based lesson on estimating measurement, and (4) a non-drama based lesson on estimating measurement (see Appendix B for samples of the detailed lesson plans). The academic contents of the drama based and non-drama based lessons were identical; only the mode of teaching differed.

Estimating measurement. The academic content and teaching objectives were the same for both types of teaching: The students will be able to identify and estimate various measurements in mm, cm, m, and km and the students will be able to state how many mm are in a cm, cm in a m, and m in a km.

Both types of teaching began with the same introduction in which students were encouraged to mirror the approximations (using their hands and fingers) of measurements the teacher indicated (e.g., 1 mm, 20 mm, 1 cm, 20 cm, 1 m). Then they were instructed in the measurement relationship between $10\text{ mm} = 1\text{ cm}$, $100\text{ cm} = 1\text{ m}$, and $1000\text{ m} = 1\text{ km}$. These relationships were written on the board and referred to in the lessons. At the end of both types of lessons, students were asked to estimate measurement kinesthetically and to show approximate measurements of several measurements (e.g., 1 mm, 10 mm, 1 cm, 10 cm, 1 m, 30 mm, 30 cm). They also reviewed the relationships between mm, cm, m, and km through discussion that reflected what had occurred in class.

The two types of teaching (Drama, Non-drama) of the same content differed in several ways. In the Non-drama condition, the children primarily investigated the material from a cognitive or intellectual base; they read about the information, talked about it, and/or wrote about it. In the Drama condition, the children were asked to role play, pretend and invent activities with one another so that mutual focus, similar emotional experiences, and a sense of relatedness or connection could occur. Thus, in the Non-drama condition, the students sat at their desks for the majority of the lesson, while those in the Drama condition cleared their desks to the side and used the open space for more kinesthetic based role playing, pretend, and creative activities with others. The Non-drama condition involved using worksheets based on mm, cm, and m; whereas, the Drama based lesson had no worksheets. The Non-drama condition had students share their performance with others only once (every student reported his or her height and arm span in cm); whereas, those in the Drama lesson engaged in four performances for the other students (e.g., within the context of pretending). What follows below illustrates the two types of teaching measurement.

The Drama condition began with a physical warm-up in which a control mechanism was established. The students were asked to walk and then stop moving and talking when "freeze" was called by the teacher. After the activity, it was requested that they stop moving and talking whenever "freeze" was called during the actual lesson. Control in the Non-drama condition was established by indicating that it was expected that students would work on the tasks given and that some talking would be allowed after completing the first worksheet.

The students in the Drama condition were requested to walk in a manner that reflected the various measurements (e.g., mm, cm, m, km). The teacher encouraged students to become as large as they could be (to reflect km) and as small as they could be (to reflect mm). This was interpreted as enjoyable by the students and created a

positive common emotion in the children. The students then formed groups and created a creature that would normally be measured in mm; they also had to decide how many mm long (or tall) the creature was. The creation of the creature was accomplished by all members of the group physically becoming a part of the creature; e.g., one child became the stinger of a scorpion, another the head, while the other two members became the legs. This activity required that the children focus on one another in order to organize themselves. The activity was active and enjoyable; therefore, most members of the groups had similar positive emotions. Each group presented their creature to the class and described how "big" it was in mm. A similar strategy was employed in investigating the measurements of cm, m, and km. The culminating activity was for the students to choose one of the "pretend" creatures that they had created and make it move.

In contrast, students in the Non-drama condition were given a 30 cm ruler and asked to point to the mm measuring side and to the cm measuring side. Students were then asked to estimate various measurements and then to "test" to see how close they were to being correct; e.g., the students were to estimate 10 mm creating the distance between their forefinger and thumb and then to check for accuracy by measuring this estimated distance with the ruler. Two students then handed out the first worksheet based on estimating mm (see Appendix C for samples of the worksheets). When students were finished with the worksheet, they were tested verbally; e.g., the teacher asked to see finger and thumb estimations of 1 mm, 1 cm, and 10 cm. They were then given the worksheet that dealt with cm. Students were allowed to work in groups of two or three. When finished with the second worksheet, students were given a third worksheet that dealt with metres and they were allowed to work in groups again. The same strategy was used for estimating km. The final activity was measuring one another's height and arm span and to report those findings to the class.

From this illustration it can be seen that the content was systematically explored using both types of teaching. In the Non-drama condition, students learned through reading and writing (the worksheets), exploration of rulers and metre sticks, discussion, and group work. In the Drama condition, the children learned primarily by focusing upon and working with one another in the creation of their creatures.

The Great Depression. The overall goals of this lesson were to investigate what the Great Depression was and what its effect was on the lives of Albertans. The academic content and teaching objectives were the same for both types of teaching: The students will be able to identify what life was like before the depression, what life was like during the Great Depression (e.g., what destroyed the farmers crops, who were the drifters), and what ended the Great Depression.

Both types of teaching began with the same introduction. The teacher briefly introduced the Depression indicating some basic facts about the depression (e.g., it began in 1929, ended in 1939). Children were asked if they knew anyone or had heard of anyone who had lived through the Depression such as their grandparents or great grandparents. The end of both the lessons was also the same. The children were asked questions about the depression. They were encouraged to recall images they had seen in the class (from the filmstrip or that they had pretended to see). Individuals were asked to imagine what could have happened to some of the individuals the class studied. The teacher then asked questions to clarify understanding; e.g., Was everyone poor? Who were the drifters? How did the drifters travel from city to city? What was life like before the depression? What destroyed the farmers crops?

The two teaching conditions were similar to those used with the measurement lessons. In the Non-drama condition, students sat at their desks during the lesson, whereas, in the Drama condition students cleared the desks to the side and used the open space for interactive and shared activities. The Non-drama condition used a film

strip, a sound tape, a booklet with photos, short stories, and journal writing; whereas, the Drama condition used the open space, large sheets of paper, felt pens, the chalk board and chalk to facilitate interaction and learning. Students in the Drama condition created and took on the roles of the events and people, while those in the Non-drama condition examined pictures and talked about the events and people. There was approximately equal sharing of results in both the Drama and Non-drama conditions. The following description illustrates the two types of teaching.

The Non-drama condition required students to work primarily at their desks (the typical manner in which this material is presented). The activities involved students describing and discussing photos found in the student booklet, *Alberta's People: How Should We Adjust to Change*. The teacher asked questions to prompt investigation; e.g., regarding a picture of a dust storm, the teacher asked how the children knew it was a dust storm and not a snow storm? The children were asked to read a short (one paragraph) story and then to give a short synopsis or to paraphrase the story to the rest of the class.

The next activity in the Non-drama condition was to observe a short (5 minute) film strip entitled, *The Great Depression*, which was accompanied by an audio tape. The film strip dealt with the conditions in Alberta beginning in the 1920's through to the beginning of World War II. For example, in the beginning of the filmstrip there were actual photos of people in the 1920's enjoying a "good life" by buying new gadgets (radios and washing machines), driving cars, and going to movies. The audio tape and film strip were presented twice to enhance understanding and retention of the information. Specific photos from the filmstrip were then viewed and discussed. The final activity was writing in a diary as if the children were people living during the Great Depression and sharing the entries with the rest of the class.

In contrast, the Drama condition began with an activity requesting that students walk as though they were happy, then sad, then continue walking as the teacher spoke to them about how the 1920's was a time of prosperity. They were to join with two or three others and pretend to be coming into town to "see the sights" such as cars, washing machines, and the movies. This activity caused the children to focus on one another and to have similar positive emotions. The children then created groups of four or five and pretended to become a family living on a farm; all were asked to pretend they were 15 to 25 years old. They then mimed plowing, planting, and harvesting at a time before the Depression.

The teacher then went into role and pretended to be a stock salesman. The children were encouraged to invest a minimum of \$100 and a maximum of \$1000 in the stock market. After the groups had decided on an amount to invest, the teacher indicated that the money they had invested doubled in value. Each group continued to invest and doubled their money until finally in 1929, all the money they had invested in the stock market was lost. Children then drew on the board the crops and livestock they had on their farms. The teacher went into role again pretending to be hail and erased a swath through all of the farms. Most families did not have enough money to "keep" everyone on the farm, so some members were forced to go to the city to find work.

This format of disaster followed by family members leaving the farm continued until there was no one left on the farms. Children who were forced to leave the farms became the "plagues" such as locust, sawfly, dust storms, and drought. The children were encouraged to personify the "plagues" while they erased all the crops. The next activity had the children role playing "drifters" in which they ran to catch a boxcar, rode the rails to Vancouver, searched for work, worked in a work camp, ate at a soup kitchen, and were recruited into the army.

From this illustration, it can be seen that both the Drama and Non-drama conditions presented the same content but their methods of delivery differed. In the Non-drama condition students learned through reading in the booklets, writing in journals, visually and aurally through the film strip and tape, and through discussion. In the Drama condition, the children learned primarily by becoming the people and events and sharing this with others. Role playing required the children to pretend and create all aspects of the content together, focusing on one another, sharing their emotions and relating to one another.

It was hypothesized that the Drama condition would promote more moments of attunement among the students and between the students and teacher than the Non-drama condition. This was predicted primarily due to the Drama condition encouraging emotional and interpersonal interaction; whereas, in the more traditional classroom (Non-drama condition), the children participated in learning more as individuals. It was assumed that the greater amount of affective attunement in the Drama condition would facilitate learning of the contents.

Pretest and Post Test Materials

In order to assess the effects of drama based and non-drama based teaching, pretest and post test materials were developed.

Two equivalent mathematics tests were constructed. Each contained 15 questions with each correct answer valued as one point. Twelve of the questions were fill-in-the-blanks questions and three were multiple choice. The questions were based on information from three text books: *Houghton Mifflin Mathematics 4* by Holmes, Poce, Burbank, and Super (1982); *MathQuest Four* by Brendan, Carlow, Neufeld, Symington, and Worth (1986); and *Journeys in Math 4* by Connelly, Marsh, Sarkissian, Calkins, Hope, O'Shea, Sharp, Taschuk, and Tossell (1986). All of the texts were designed for grade four students and all included a section on estimating

measurement. All teachers indicated that they used one or more of the texts throughout the year. The questions on the two test were approved by the teachers as being fair tests for their students (see Appendix D for samples of the tests).

Two equivalent Social Studies tests were constructed based on the Great Depression. They each contained eight questions. There were seven short answer questions valued at two points each and one multiple choice question valued at one point. The information for the questions were taken from a teacher's manual, a film strip, and a student booklet: *Alberta's People: How Should We Adjust to Change*. These three sources were part of a teacher's kit entitled *Kanata Kit: Alberta's People: How Should We Adjust to Change*. The kit was created to teach Alberta children about Alberta's recent history including the Great Depression. The questions on the two tests were approved by the teachers as being fair tests for their students (see Appendix D for sample of the test).

The Mathematics and Social Studies tests were identical in format and assessed the learning of the same contents. However, the wordings of the questions were altered in order to diminish the possible effects of practice. The two tests for each subject allowed the researcher to systematically vary them as pretests and post tests in a counterbalanced design to different groups of students.

Satisfaction survey

The satisfaction survey was a one-page questionnaire with six questions that asked the children to indicate how much they liked each lesson, how much they felt they learned in each lesson, and whether they wanted to learn more about the subjects (see appendix E for a sample survey). The first four questions were: (1) "How much did you **like** the Math lesson on measurement (mm, cm, m)?" (2) "How much did you **like** the Social Studies lesson on the Great Depression?" (3) "How much do you think you **learned** about measurement (mm, cm, m)?" (4) "How much do you think you

learned about the Great Depression?" The children indicated their answers to these four questions by making a mark on a continuum line that had three categories (a little bit, some, and a lot). The last two questions were: "Would you like to **learn** more about measurement (mm, cm, m)?" and "Would you like to **learn** more about the Great Depression?" The children were asked to indicate their answers by making a mark on the continuum line between no and yes (unsure was in the centre).

Procedure

Eight classes participated in the study. This permitted the systematic manipulation of two different content-lessons (Social Studies and Mathematics) and in two teaching conditions (Drama and Non-drama). Each class received exposures to the two different contents and to the two teaching conditions. The ordering of lesson content and teaching condition were counter-balanced across the classes. Thus, there were 4 combinations:

- (1) Drama condition - Social Studies: Non-drama condition - Mathematics
- (2) Drama condition - Mathematics: Non-drama condition - Social Studies
- (3) Non-drama condition - Social Studies: Drama condition - Mathematics
- (4) Non-drama condition - Mathematics: Drama condition - Social Studies.

The classes were systematically exposed to each of the four combinations.

Pretest

Approximately one week after the initial meeting with the students and receipt of the consent forms, the students wrote a pretest in their respective classrooms. The particular pretest (Social Studies or Mathematics) was based on which succeeding lesson was planned for that class. The one-page pretest took approximately 10

minutes to complete. After all the pretests were gathered, the students were then given the lesson that dealt with the material on the pretest.

Lessons

Before the lessons began, a Sony video camera was placed on a tripod and positioned in a corner of the room so that the majority of the classroom was in the frame. When the pretests were handed in, the camera was turned on. The entire lesson was video taped from one angle.

The duration of the lessons ranged from 43 to 51 minutes in length. This variation was primarily due to the number of students in the classes. Class size ranged from 14 to 29 students. The smaller classes completed the lessons faster than the larger ones mainly due to reduced presentation time (fewer groups and individuals that had to present their findings) and time required to settle the classes. Table 2 presents the numbers of IPP students and non-IPP students in each class participating in the study. An examination of this table reveals that the average ratio of IPP to non-IPP students was approximately 1 to 5. Students who did not participate were taken to the library or to the resource room. There they read or worked on material given to them by their teacher.

The researcher is a certified teacher in Alberta (permanent teaching certificate number 139695K). He served as the teacher for the lessons and teaching conditions. This decision was based on the following two considerations. First, there was no other certified teacher(s) available to participate in the research. Second, the researcher is a trained drama coach who has extensive experience in working with children of this age. The researcher was cognizant of the possibility of the "Hawthorne effect" in which student awareness of being under observation and researcher's bias can influence the results of a study. He attempted to stay within the clearly defined guidelines set out in the design of the lessons and teaching conditions. It was assumed that the

effectiveness of drama based teaching to elicit affective attunement could be objectively measured so that conclusions could be based on the success of promoting affective attunement and its effect on academic performance.

Table 2. Numbers of IPP and Non IPP Participants

Class	# of IPP	# of non IPP	Total participating
1	4	22	26
2	3	13	16
3	3	19	22
4	3	23	26
5	4	10	14
6	8	14	22
7	3	26	29
8	3	20	23
Totals	31	147	178

Post Test

The appropriate post test was given three to five days after each lesson. It was the second form of the content tests which assessed the same content as the pretest. The ordering of forms (pretest and post test) were presented in a counter-balanced design across classes so that the pretest for one class of students was the post test for the other class. The administration procedure was identical to that of the pretest.

Satisfaction Survey

The satisfaction survey was completed 1 to 3 days after both lessons and post tests were completed. It was explained that the questionnaire sought their opinion

regarding the two lessons and that there were no right or wrong answers. To help them recall, the first question was read to them and a student was asked to describe the class that the question referred to. They were then asked to indicate their level of satisfaction along the continuum provided. This pattern of reading the question, explaining the continuum, and asking them to mark according to their preferences was followed for all the questions. Completion of the survey took approximately 10 minutes. After completing the survey the children were warmly thanked for their participation.

Scoring of the Raw Data

There were three sets of applicable data: Affective attunement during the teaching conditions, academic performance (pretest and post test), and satisfaction surveys.

Affective Attunement

The first step was to identify the 24 students in independent progress programs (IPPs) who were in the frame of the video and clearly visible for sufficient time in both lessons. After they were identified, a match within the class for each student in an IPP was found, i.e., a peer who met the three criteria of same gender, same age, and same amount of time in frame.

Although the actual class time varied from 43 minutes to 51 minutes (mainly due to the differing number of children in the classes and the amount of time required to settle them), it was decided to view and code only the first 43 minutes of each lesson in each class in order to have a consistent time standard for all lessons (content and teaching condition).

All 48 participants (24 students in IPPs, 24 students not in IPPs) were viewed by the primary rater. A second rater was enlisted to check for reliability; the second rater coded 38% of the 24 matched pairs of students ($N=9$). The pairs chosen for checking reliability was done on a random basis. The training of the second rater involved (a) explaining and exemplifying the concept of affective attunement, (b) 7 hours of training, (c) slow motion and regular motion observation of moments of affective attunement from various movies (e.g., "Ben Hur," "Sound of Music," and "Steel Magnolias"), and (d) slow motion and regular motion observation of selected moments in the video tapes from the experiment *not* used for the reliability check (from the remaining 15 pairs).

Six types of affective attunement were coded (a) affective attunements of a student in an IPP with the matched peer, (b) affective attunements of a student in an IPP with all other students in the class, (c) affective attunements of a student in an IPP with the teacher, (d) affective attunements of a matched peer with the IPP student, (e) affective attunements of a matched peer with all other students in the class, and (f) affective attunements of a matched peer with the teacher. Such coding permitted a thorough examination of differences in affective attunement between children with learning disabilities and children without learning disabilities and its possible relationship to academic performance.

Each rater scored the video tapes alone and independently using a system of assigning numerical values to observed moments of affective attunement that was created from the work of Fouts and his students (1993, 1994, 1995, 1998). The raters were asked to follow a single student for the full duration of the 43-minute period and to identify the moments of affective attunement in each of three categories (with the match, with all other students, and with the teacher). This was repeated for the other student in the matched pair.

The criteria for identification of affective attunement were (a) focus upon one another, (b) similarity of expressed emotion, and (c) a sense of oneness. In order to be scored as a moment of affective attunement, *all three* of these criteria had to be observed. These three criteria were scored within the context of an interaction between an IPP student and any other individuals and the matched peer and any other individuals in the class. During interactions in which a rater was unsure if there was affective attunement present, the tape was repeatedly played in slow motion so that the individuals and their vitality affects could be more closely observed. This coding was very labour intensive but deemed necessary for reliable and valid coding of moments of affective attunement. The criteria are presented below.

Focus. To be rated as having a moment of affective attunement, the individuals had to be focused on one another. A rater looked primarily for evidence of mutual focus in eye contact, but other indicators were also used (e.g., awareness of one another as seen through similar body movements or body posture). That is, individuals explicitly looking into one another's eyes was the clearest indicator of mutual focus. If the individuals were not looking at one another, then there was reduced possibility of a moment of affective attunement. Speaking to or listening to one another offered contextual cues that affective attunement may be occurring. Awareness of one another as in leaning against one another or holding hands was judged as mutual focus, since their touching bodies resulted in kinesthetic awareness.

Head orientation, head position, and head movements also were indicators of focus. Mutual focus was coded if the students' heads were (a) touching or extremely close to one another by mutual consent, (b) clearly tilted toward or aimed at one another, or (c) purposefully touching one other's bodies. Body orientation, body movements, body position, and proximity were other important cues to mutual focus. Mutual focus was coded if (a) students were purposefully leaning toward one another,

(b) the chest of one was purposefully turned to the other even though the head was turned away, (c) while in close proximity, both body positions reflected similar amounts of relaxedness or tension, (d) body movements were purposefully the same or similar, or (e) students were in extreme close proximity to one another.

Similarity of emotions. The second criterion for affective attunement was that both individuals exhibited similar positive emotions. Not all emotions or a "strong surges of feeling marked by an impulse to outward expression and often accompanied by complex bodily reactions" (*Funk and Wagnalls Standard College Dictionary*, 1975, p. 432) were positive. Students who focused on one another with judged fear, anger, disgust, shame, hate, envy, or scorn were not coded as having a moment of affective attunement because strong negative emotions prevent affective attunement (Stern, 1985). Perceived joy, surprise, and curiosity were the primary positive emotions observed in possible moments of affective attunement.

Facial expressions were very important in determining similar emotions. Similar emotions were coded if both individuals explicitly smiled at one another or if they laughed with one another. Similar emotions were also coded if one individual laughed while the other only smiled.

Body orientation, body movements, and body position were also important cues for similarity of positive emotions. Students were coded as having similar emotions if the individual's bodies reflected similar amounts of emotion; e.g., one student's excited talking was reflected by the other student's excited jumping or if two students crawled in a similarly excited manner.

"Similar emotions" was coded even when it was unclear what the emotion was. This often occurred in quieter moments in which students would be talking with one another. "Similar emotions" dealt not only with discrete emotions categorized by Darwin (Stern, 1985; Tomkins, 1981) but also with being in similar internal states

without expressing distinct emotional states; e.g., students lying on top of one another, talking and relaxing, or if the two students leaned against one another with mutual consent.

Sense of oneness. The raters coded moments of affective attunement or interpersonal connection when two individuals experienced a sense of "oneness" (Fouts, 1994, 1995, 1996; Pearlman, 1988; Stern, 1985). The behavioural cues that indicate a sense of oneness between two individuals are those which form particular pattern of vitality affects (Stern, 1985) or adaptations (Stanislavski, 1976). These patterns are more likely to be observed when there is mutuality of focus and the students appear emotionally open and are behaving in affective domain.

A sense of oneness could be coded only if the individuals engaged with one another in an open manner in which they were not protecting themselves emotionally. Behaviours which indicated that individuals were not emotionally open included bodies in defensive or aggressive positions such as arms folded across the chest, hunched shoulders, curling up in a fetal position, hands on hips, backs turned to one another, avoidance of eye contact, set mouths, clenched jaws, hostile or challenging eye contact, or stiff posture.

Behaviours that indicated individuals were open to one another occurred in contexts of mutuality of focus and similarity of positive emotions. The sense of oneness was noted when (a) one individual moved, and that movement was reflected in quality by the other individual (e.g., one student flopping on the floor and another student reflecting the flopping action by flailing her arms); (b) the bodies matched in basic shape and inclination (e.g., two people seated at a small table leaning toward each other and gazing at one another); (c) the bodies were engaged in similar vigorous activity simultaneously, or (d) there were reciprocated movements in an imitative

manner such as students reaching for one another at the same time, or falling on top of one another.

For each interaction in which all three criteria occurred, an instance of affective attunement was coded in the appropriate category of interaction (with the matched peer, with all other children in the class excluding the matched peer, and with teacher). The total number of affective attunements in each category were noted. Thus, for each IPP and matched individual, there were three categories of scores of affective attunements.

Examples of affective attunement and non attunement. Affective attunement was scored when both individuals were focused on one another, had a similar amount of positive emotion, and there was a sense of oneness between them. Specific situations in which moments of affective attunement were coded include when pairs engaged in hugging, friendly wrestling, laying on top of one another, holding one another, staring into each other's eyes, laughing, embracing, friendly touching, jumping together, running together, clear and sustained eye contact, singing together while watching one another, or dancing together.

Situations in which affective attunement was clearly absent included when individuals were working by themselves or when they were individually on task during more formal situations in the classroom, e.g., the students working independently, students expressing opinions to the entire class, students answering questions, or students writing and reading.

Affective attunement was not scored when students operated primarily in the cognitive domain such as when explaining, reporting or clarifying. Other examples of no affective attunement were when one or both individuals were expressing negative emotions such as animosity, fear, or anger or when there was a sense of the two individuals working to a common purpose, but one or both of the individuals were

focused inwardly rather than being responsive to one another. Two individuals having similar emotions did not necessarily result in coding of affective attunement. For example, if one individual focused on the other but the other was unresponsive, or if one individual was empathetic but the other was closed, then affective attunement was not scored. See APPENDIX F for the affective attunement raw scores.

Academic Performance

There were two sources of data, pretest and post test. Correct answers on each of the pretests and post tests were marked and summed; the possible range was 0 to 15 on each test. A difference score (called a gain score) was calculated by subtracting the pretest score from the post test score. Each student had two gain scores, one from the Drama condition and one from the Non-drama condition. See APPENDIX F for the student satisfaction raw scores.

Satisfaction Survey

The six items on the satisfaction surveys were coded. Questions 1 to 4 were coded 1 (a little bit), 3 (some), and 5 (a lot). If a student marked a preference between the choices given, then a 2 or a 4 was scored; e.g., a mark in between "a little bit" and "some" was coded as a 2. The last two questions were coded 1 (no), 3 (unsure), and 5 (yes). If a student marked a preference between the choices given then a 2 or a 4 was scored; for example, a mark in between "unsure" and "yes" was coded as a 4. A total "satisfaction score" was obtained by adding the three satisfaction scores together (how much each child felt they liked the lesson, how much each child felt they learned from the lesson, and whether the child would like to learn more about the subject) for a total out of 15. There were two satisfaction scores, one for the Drama condition and one for the Non-drama condition. See APPENDIX F for the academic achievement raw scores.

CHAPTER THREE

RESULTS

The general purpose of this study was to examine the effects of drama based instruction and affective attunement on academic performance (test scores in core subject areas), and satisfaction scores of children with and without learning disabilities. In this chapter interrater reliability will be examined first; then the hypotheses will be systematically examined.

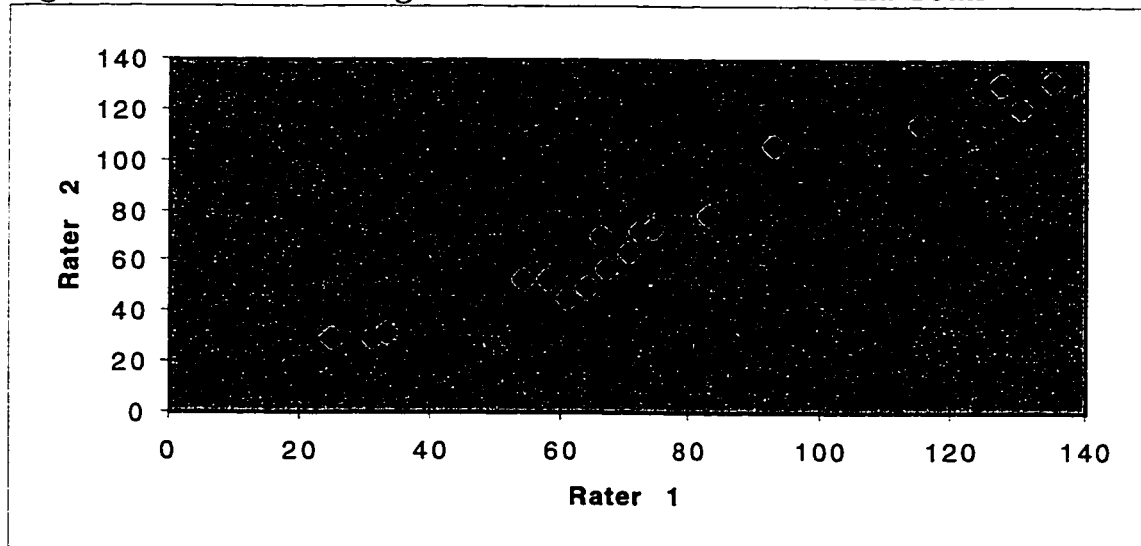
Interrater Reliability

The interrater reliability for affective attunement was calculated based on nine students with learning disabilities and nine students without learning disabilities. These 18 students were randomly selected from the participants and were independently coded by the two raters. Coding was done separately for each of the two conditions (Drama and Non-drama). Interrater reliabilities were determined by calculating the Pearson Product Moment Correlation coefficients between the frequencies of affective attunement coded by the two raters. Table 3 presents the interrater reliabilities for students with their peer match, all other students in the class (other than the peer match), and the teacher. Reliability for total affective attunement (summing the scores for the peer match, others, and the teacher) are also presented. Figures 1 and 2 present scatter graphs of the total affective attunement codings between the two raters for the Drama and Non-drama conditions. An examination of Table 3 and Figures 1 and 2 indicate very high interrater agreement on the coding of affective attunement in both the Drama and Non-drama conditions.

Table 3. Interrater Reliability with Matched Peer, Other Classmates, and Teacher under the Drama and Non-drama Conditions

Condition		Correlation	P - value
Drama	- with matched peer	.996	<.001
	- with others	.954	<.001
	- with teacher	.943	<.001
	- total	.980	<.001
Non-drama	- with matched peer	.676	=.002
	- with others	.908	<.001
	- with teacher	.962	<.001
	- total	.925	<.001

Figure 1. Interrater Coding of Affective Attunement - Drama Total



Interrater reliabilities for scoring the Mathematics and Social Studies pre/post tests and satisfaction questions were not calculated because there was no subjectivity in the measures.

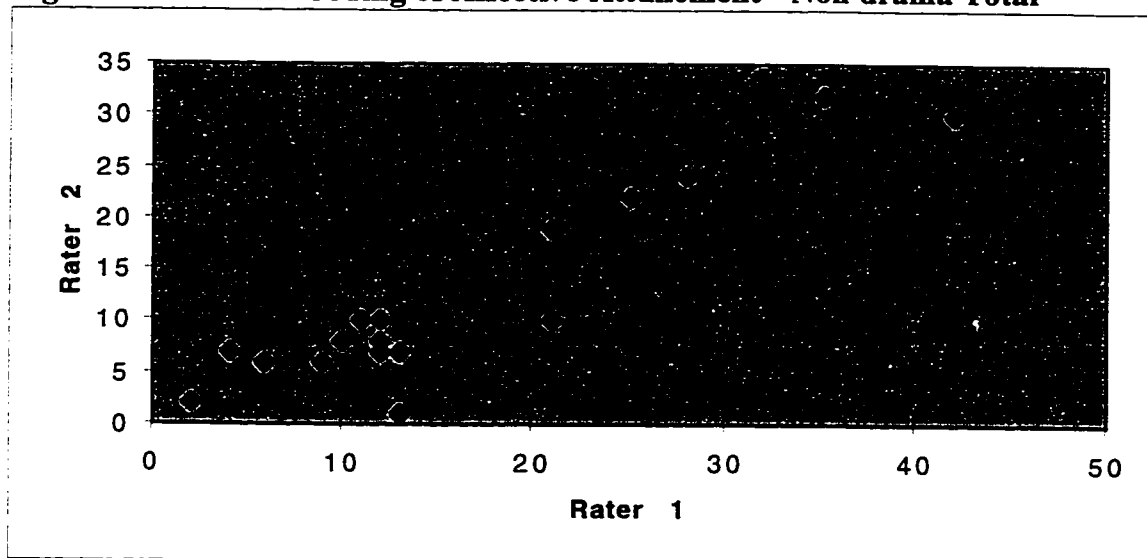
Figure 2. Interrater Coding of Affective Attunement - Non-drama Total

Table 4 shows the raw scores from rater 1 and rater 2 for some of the children in the Drama Condition. The number in each box represents the affective attunements observed during the 43 minutes of the drama class. Columns 2 and 3 reflect the incidents of affective attunement observed with the matched peer, columns 4 and 5 reflect the incidents of affective attunement observed with all other students in the class excluding the matched peer, columns 6 and 7 reflect the incidents of affective attunement observed with the teacher, and columns 8 and 9 reflect the total incidents of affective attunement observed by rater 1 and rater 2.

Table 5 shows the raw scores from rater 1 and rater 2 for some of the children in the Non-Drama Condition. The number in each box represents the affective attunements observed during the 43 minutes of the drama class. Columns 2 and 3 reflect the incidents of affective attunement observed with the matched peer, columns 4 and 5 reflect the incidents of affective attunement observed with all other students in the class excluding the matched peer, columns 6 and 7 reflect the incidents of affective

attunement observed with the teacher, and columns 8 and 9 reflect the total incidents of affective attunement observed by rater 1 and rater 2.

Table 4. Raw Scores from Rater 1 and Rater 2 for the Drama Condition

1	2	3	4	5	6	7	8	9
	Rater 1 with match	Rater 2 with match	Rater 1 with others	Rater 2 with others	Rater 1 with teacher	Rater 2 with teacher	Rater 1 Total	Rater 2 Total
1	8	9	21	19	2	2	31	30
2	9	9	78	92	4	5	91	106
3	21	16	104	101	5	5	130	122
4	20	21	89	87	6	7	115	115
5	99	90	36	42	0	0	135	132
6	92	89	33	40	2	1	127	130
7	12	17	45	36	1	0	58	53
8	10	10	62	62	0	0	72	72
9	9	7	56	49	2	1	67	57
10	8	6	51	38	2	2	61	46
11	26	24	42	39	2	1	70	64
12	27	26	53	50	3	3	83	79
13	6	3	58	47	0	0	64	50
14	8	8	64	64	2	1	74	73
15	1	0	64	70	1	0	66	70
16	0	0	54	53	0	0	54	53
17	16	14	16	17	1	1	33	32
18	16	18	9	11	0	1	25	30

Table 5. Raw Scores from Rater 1 and Rater 2 for the Non-Drama Condition

1	2	3	4	5	6	7	8	9
	Rater 1 with match	Rater 2 with match	Rater 1 with others	Rater 2 with others	Rater 1 with teacher	Rater 2 with teacher	Rater 1 Total	Rater 2 Total
1	7	0	5	3	7	4	19	7
2	0	0	26	23	2	1	28	24
3	1	0	10	7	1	0	12	7
4	0	0	21	19	0	0	21	19
5	11	3	31	27	0	0	42	30
6	6	6	19	15	0	1	25	22
7	0	0	10	8	0	0	10	8
8	0	0	30	29	5	3	35	32
9	0	0	9	6	0	0	9	6
10	0	0	6	6	0	0	6	6
11	0	0	12	10	0	0	12	10
12	0	0	2	2	0	0	2	2
13	0	0	13	1	0	0	13	1
14	0	0	10	10	1	0	11	10
15	0	0	13	7	0	0	13	7
16	0	0	21	10	0	0	21	10
17	0	0	4	7	0	0	4	7
18	0	0	12	8	0	0	12	8

Hypothesis 1

It was expected that there would be a greater frequency of affective attunement in the Drama condition than the Non-drama condition for the four measures of affective attunement: with matched peer, with other classmates, with the teacher, and with the whole class (summing the previous three categories). A 2 Drama (Drama, Non-drama) x 2 Ability Level (children with learning disabilities, children without learning disabilities) x 2 Gender (female, male) ANOVA was conducted on the frequency of affective attunements for each measure. All statistical analyses collapsed content of lessons (Mathematics and Social Studies) since (a) contents were systematically counterbalanced with the other factors, and (b) content was not the object of this investigation.

An ANOVA was conducted on the frequency of affective attunement occurring with the matched peer. Table 6 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 29.40, p < .001$]. That is, the Drama condition ($M = 19.3$) resulted in more incidents of affective attunement than the Non-drama condition ($M = 3.2$). There were no significant effects for Ability Level [$F(1, 44) = .02, p = .878$], Gender [$F(1, 44) = .07, p = .794$], nor interaction among the variables.

An ANOVA was conducted on the frequency of affective attunement occurring with all other classmates (excluding the matched peer). Table 7 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 69.77, p < .001$]. That is, the Drama condition ($M = 43.2$) resulted in more affective attunement than the Non-drama condition ($M = 13.5$). There were no significant effects for Ability Level [$F(1, 44) = .62, p = .436$] nor Gender [$F(1, 44) = 3.11, p = .085$].

Table 6. Frequency of Affective Attunement with the Matched Peer in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	18.9	16.3	19.3	17.1	19.1	16.3
Boys	19.8	26.9	19.1	25.0	19.5	25.4
Total	19.3	21.8	19.2	20.9	19.3	21.1
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	4.9	6.4	3.7	6.2	4.3	6.2
Boys	2.4	4.2	1.8	3.0	2.1	3.6
Total	3.7	5.5	2.7	4.8	3.2	5.1

Table 7. Frequency of Affective Attunement with the Other Classmates in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	46.4	32.5	55.7	33.4	51.0	32.5
Boys	34.3	15.7	36.6	17.7	35.4	16.4
Total	40.3	25.7	46.1	25.9	43.2	26.7
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	15.4	15.7	12.0	9.5	13.7	12.8
Boys	10.3	8.1	16.4	10.6	13.0	8.2
Total	12.9	12.9	13.8	8.6	13.5	10.6

There was a significant interaction of Gender by Drama [$F(1, 44) = 4.63, p = .037$]. Independent post hoc t tests were conducted on the frequencies of affective attunement of girls and boys in the Drama condition and on the frequencies of affective attunement of girls and boys in the Non-Drama condition. There was no significant difference between the genders (girls = 51.0, boys = 35.4) in the Drama condition; however, they approached significance [$t(46) = 2.10, p = .043$]; the alpha level was adjusted to .025 according to the Bonferroni t statistic. There was no significant difference between the genders in the Non-Drama condition [$t(46) = .11, p = .915$].

An ANOVA was conducted on the frequency of affective attunement occurring with the teacher. Table 8 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 8.68, p = .005$]. That is, the Drama condition ($M = 1.4$) resulted in more affective attunement than the Non-drama condition ($M = .6$). There were no significant effects for Ability Level [$F(1, 44) = .08, p = .774$], Gender [$F(1, 44) = .07, p = .794$], nor interactions among the variables.

An ANOVA was conducted on the total frequency of affective attunement occurring within the classroom (summing across matched peers, other classmates, and the teacher). Table 9 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 144.77, p < .001$]; the Drama condition ($M = 64.2$) resulted in more total affective attunement than the Non-drama condition ($M = 16.9$). There was also a significant main effect for Gender [$F(1, 44) = 4.19, p = .047$]. That is, the girls ($M = 45.6$), exhibited a greater frequency of total affective attunement than the boys ($M = 35.5$). There were no significant effects for Ability Level [$F(1, 44) = .24, p = .627$] nor interaction among the variables.

The raw affective attunement scores are presented in Appendix F.

Table 8. Frequency of Affective Attunement with the Teacher in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	1.6	1.3	1.8	1.9	1.7	1.6
Boys	1.3	1.4	.8	.9	1.0	1.1
Total	1.4	1.3	1.3	1.5	1.4	1.4
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	.9	2.0	.4	.7	.7	1.5
Boys	.2	.6	.6	1.4	.5	1.1
Total	.6	1.5	.5	1.1	.6	1.3

Table 9. Total Frequency of Affective Attunement Occurring within the Classroom in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	68.5	29.0	76.9	29.1	72.7	28.7
Boys	55.3	29.5	56.0	26.6	55.7	27.4
Total	61.9	29.4	66.5	29.3	64.2	29.1
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	20.7	14.3	16.1	11.9	18.4	13.1
Boys	12.9	11.0	17.9	7.6	15.4	9.6
Total	16.8	13.1	17.0	9.7	16.9	11.4

In summary, each analysis contrasting the frequency of affective attunement in the Drama and Non-drama condition was significant. Therefore, the hypothesis was supported; i.e. the use of drama based techniques in teaching core subjects increases the amount of affective attunement occurring within the classroom.

Hypothesis 2

It was expected that there would be greater improvement in the test scores (Mathematics and Social Studies) of children exposed to the Drama condition than the Non-drama condition. In order to test this hypothesis, difference scores (lesson gain scores) were calculated between the pre and post tests for each lesson; i.e., the gain score was computed by subtracting the pretest score from the post test score; a positive score indicated improvement. A 2 Drama (Drama, Non-drama) x 2 Ability Level (children with learning disabilities, children without learning disabilities) x 2 Gender (female, male) ANOVA was conducted on the gain scores across the two lessons. Table 10 presents the lesson gain scores (means and standard deviations) for this analysis.

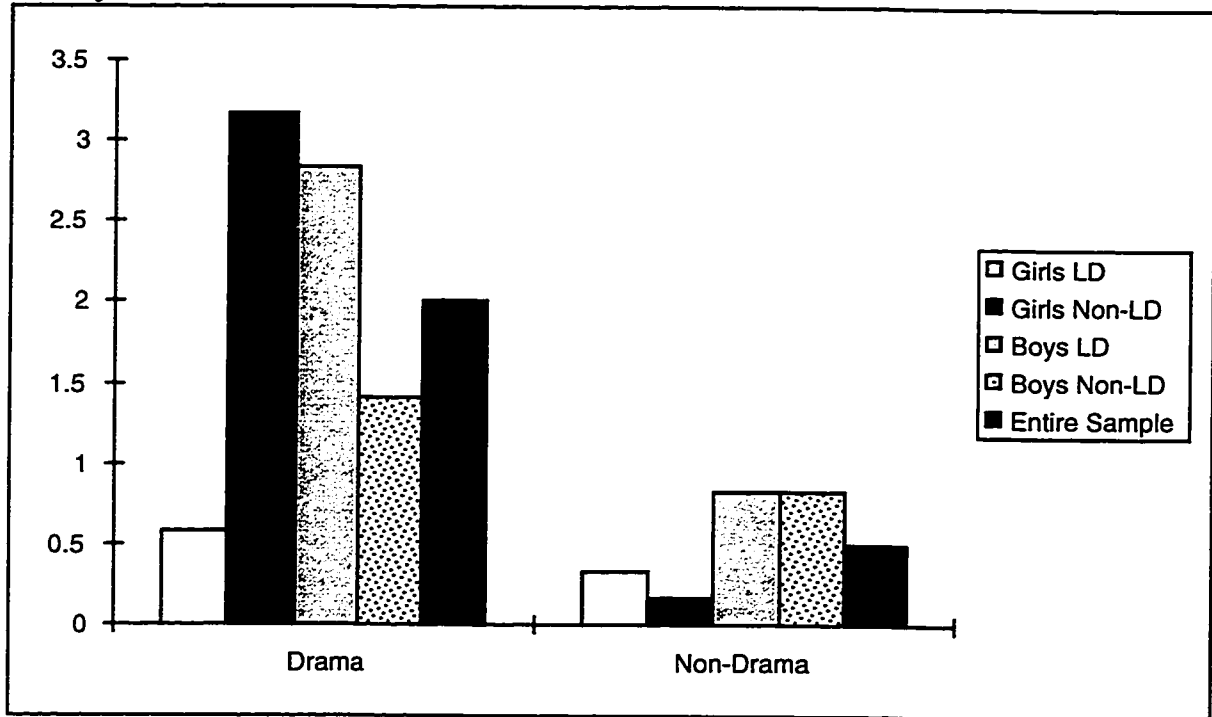
The ANOVA revealed a significant effect of Drama [$F(1,44) = 10.18, p = .003$]. There was significantly greater improvement in the Drama condition (2.0) than the Non-drama condition (.5). Figure 3 presents this finding graphically. There were no significant effects for the Ability Level [$F(1, 44) = .21, p = .646$], Gender [$F(1, 44) = .59, p = .445$], nor 2-way effects among the variables. The main effect of Drama supports the hypothesis that there would be greater improvement in the test scores (Mathematics and Social Studies) of children exposed to the Drama condition than the Non-drama condition.

Table 10. Lesson Gain Scores in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	.6	2.3	3.1	2.7	1.9	2.8
Boys	2.8	3.1	1.4	2.0	2.1	2.6
Total	1.7	2.9	2.3	2.4	2.0	2.7
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	.3	2.3	.2	1.8	.3	2.0
Boys	.8	2.6	.8	2.7	.8	2.6
Total	.6	2.4	.5	2.3	.5	3.5

There was a significant 3-way interaction among Drama, Ability Level, and Gender [$F(1, 44) = 5.19, p = .028$]. Two post hoc ANOVAs were conducted to examine this interaction; Gender x Ability Level ANOVAs were separately conducted on the Drama and the Non-drama conditions. The alpha level was altered according to the Bonferroni t statistic in which the alpha level is adjusted according to the number of comparisons being performed (Pedhazur, 1973). Because two tests were being conducted the alpha level was changed to .025. There were no significant effects in the Non-drama condition with regard to Ability Level [$F(1, 44) = .015, p = .903$], Gender [$F(1, 44) = .731, p = .397$], nor their interaction [$F(1, 44) = .015, p = .903$]. In the Drama condition, neither main effect was significant, Ability Level [$F(1, 44) = .117, p = .734$] nor Gender [$F(1, 44) = .376, p = .689$]. There was a 2-way interaction between Ability Level and Gender [$F(1, 44) = 7.459, p = .009$].

Figure 3. Lesson Gain Scores in the Drama and Non-Drama Conditions for Ability Level and Gender.



Subsequent investigation of the simple effects within the interaction revealed no significant effects, although the difference between girls with and without learning disabilities approached significance [$t(22) = -2.56, p = .018$; alpha level changed to .0125 according the Bonferroni t statistic]. The mean gain score for the girls without learning disabilities ($M = 3.167$) was non-significantly greater than that of the girls with learning disabilities ($M = .583$).

A subsidiary analysis was conducted to shed additional light on the hypothesis. That is, it may be expected that the amount of affective attunement would be correlated with the amount of academic improvement (gain scores) in the lessons. Therefore, Pearson Product Moment Correlation coefficients (collapsing over Drama and Non-drama conditions) were computed between frequencies of affective attunement and lesson gain scores separately for children with and without learning

disabilities and then with all students combined. For children with learning disabilities, there was no significant correlations between their gain scores and attunement with matched pairs [$r(48) = .07, p = .69$], other classmates [$r(48) = .04, p = .78$], the teacher [$r(48) = .08, p = .61$], or total attunement [$r(48) = .33, p = .09$]. For children without learning disabilities, there was a significant correlation between lesson gain scores and attunement with matched pairs [$r(48) = .36, p = .01$] and total attunement in the classroom [$r(48) = .33, p = .02$]; correlations with the other classmates [$r(48) = .16, p = .27$] and the teacher [$r(48) = .17, p = .25$] were not significant. Since each Ability Level had only 24 children to compute correlations, all the children were combined in order to determine the correlation between lesson gain scores and affective attunement. It was found that the children's gain scores correlated significantly with the frequency of affective attunement with the matched peer [$r(96) = .21, p = .04$], frequency of affective attunement with the teacher [$r(96) = .21, p = .04$], and total frequencies of affective attunement occurring within the classroom [$r(96) = .20, p = .05$]. These findings provide some support for the hypothesis that affective attunement is related to improved academic performance. The raw pretest, post test, and gain scores are presented in Appendix F.

Hypothesis 3

It was expected that there would be greater improvement in lesson gain scores for children with learning disabilities than children without learning disabilities due to the former being facilitated by working in the affective domain and affective attunement. The ANOVA reported under hypothesis 2 revealed no main effect of Ability Level nor Drama x Ability Level interaction. Also, the examination of the significant 3-way Drama x Ability Level x Gender interaction revealed no significant

differences between children with and without learning disabilities. Thus there was no support for this hypothesis.

Hypothesis 4

It was expected that there would be greater satisfaction shown for drama based teaching than non-drama based teaching and that children with learning disabilities would indicate greater satisfaction than the children without learning disabilities for the drama based teaching. Four measures of satisfaction were used to test this hypothesis based on the three survey questions and the total of all three scores (summing the three measures). The three survey questions asked how much each child liked the lesson, felt they learned from the lesson, and whether they wanted more of this type of lesson (see appendix E for sample of the questions). A 2 Drama (Drama, Non-Drama) x 2 Ability Level (children with learning disabilities, children without disabilities) x 2 Gender (female, male) ANOVA was conducted on the scores for each measure.

An ANOVA was conducted on the scores based on the first question on the survey; i.e., how much the children "liked" the drama based and non-drama based lessons. Table 11 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 6.3, p = .014$]; i.e., children liked the Drama condition ($M = 4.2$) more than the Non-drama condition ($M = 3.5$). There was also a significant effect for Gender [$F(1, 44) = 7.01, p = .01$]; i.e., boys ($M = 4.2$) liked all the teaching more than did the girls ($M = 3.4$). There were no significant effects of Ability Level [$F(1, 44) = .541, P = .464$] nor interactions among the variables.

Table 11. "Like" Satisfaction Scores in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	3.5	1.5	4.3	1.3	3.9	1.4
Boys	4.6	.8	4.2	1.3	4.4	1.1
Total	4.1	1.3	4.3	1.3	4.2	1.3
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	3.2	1.3	2.8	1.6	3.0	1.5
Boys	4.3	1.6	3.6	1.5	4.0	1.5
Total	3.8	1.5	3.2	1.6	3.5	1.6

An ANOVA was conducted on the scores based on the second question; i.e., how much the children believed they had "learned" in the lessons. Table 12 presents the means and standard deviations for this analysis. There was a significant main effect of Drama [$F(1, 44) = 6.01, p = .017$]; i.e., the students believed they had learned more in the Drama condition ($M = 4.2$) than the Non-drama condition ($M = 3.5$). There was a significant effect for Gender [$F(1, 44) = 10.92, p = .01$] indicating that boys ($M = 4.3$) felt they had learned more than the girls ($M = 3.3$). There were no significant effects for Ability Level [$F(1, 44) = 1.67, p = .199$] nor interactions among the variables.

An ANOVA was conducted on the scores based on the third question; i.e., whether the children wanted more of the type of teaching they had received for the lessons. Table 13 presents the means and standard deviations for this analysis. There

Table 12. “Learn” Satisfaction Scores in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	4.0	1.6	3.8	1.6	3.9	1.6
Boys	4.7	1.2	4.2	1.0	4.4	1.1
Total	4.3	1.4	4.0	1.3	4.2	1.3
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	3.0	1.5	2.5	1.2	2.8	1.4
Boys	4.3	1.6	4.0	1.6	4.2	1.6
Total	3.7	1.6	3.3	1.6	3.5	1.6

Table 13. “More” Satisfaction Scores in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	4.2	1.6	3.9	1.6	4.0	1.5
Boys	3.8	1.6	3.8	1.5	3.8	1.5
Total	4.0	1.6	3.8	1.5	3.9	1.5
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	3.0	1.9	2.5	1.7	2.8	1.8
Boys	3.8	1.6	3.1	1.8	3.5	1.7
Total	3.4	1.8	2.8	1.8	3.1	1.8

was a significant main effect of Drama [$F(1, 44) = 5.41, p = .022$]; i.e., children wanted more of the teaching in the Drama condition ($M = 3.9$) than the Non-drama condition ($M = 3.1$). There were no significant effects for Ability Level [$F(1, 44) = 1.213, p = .274$], Gender [$F(1, 44) = .539, p = .465$] nor significant interactions among the variables.

An ANOVA was conducted on the total satisfaction scores indicated on the survey (summing across “like,” “learn,” and “more” questions). Table 14 presents the means and standard deviations for this analysis. The means are also graphically presented in Figure 4. There was a significant main effect of Drama [$F(1, 44) = 8.68, p = .004$] indicating that the Drama condition ($M = 12.3$) was more preferred than the Non-drama condition ($M = 10.0$). There was a significant effect for Gender [$F(1, 44) = 6.822, p = .011$]; boys ($M = 12.1$) indicated a greater overall satisfaction for the teaching (done by a male teacher) than the girls ($M = 10.2$). There were no significant effects for Ability Level [$F(1, 44) = 1.634, p = .205$] nor interactions among the variables. The main effect of Drama supports the hypothesis that there would be greater general satisfaction shown for the drama based teaching than the non-drama based teaching.

In summary, each analysis contrasting the satisfaction in the Drama and Non-drama conditions was significant. Therefore, the hypothesis was supported; i.e. the use of drama based techniques in teaching core subjects received greater general satisfaction scores. However, there was no support for the expectation that children with learning disabilities would indicate greater satisfaction for the drama based teaching than the children without learning disabilities.

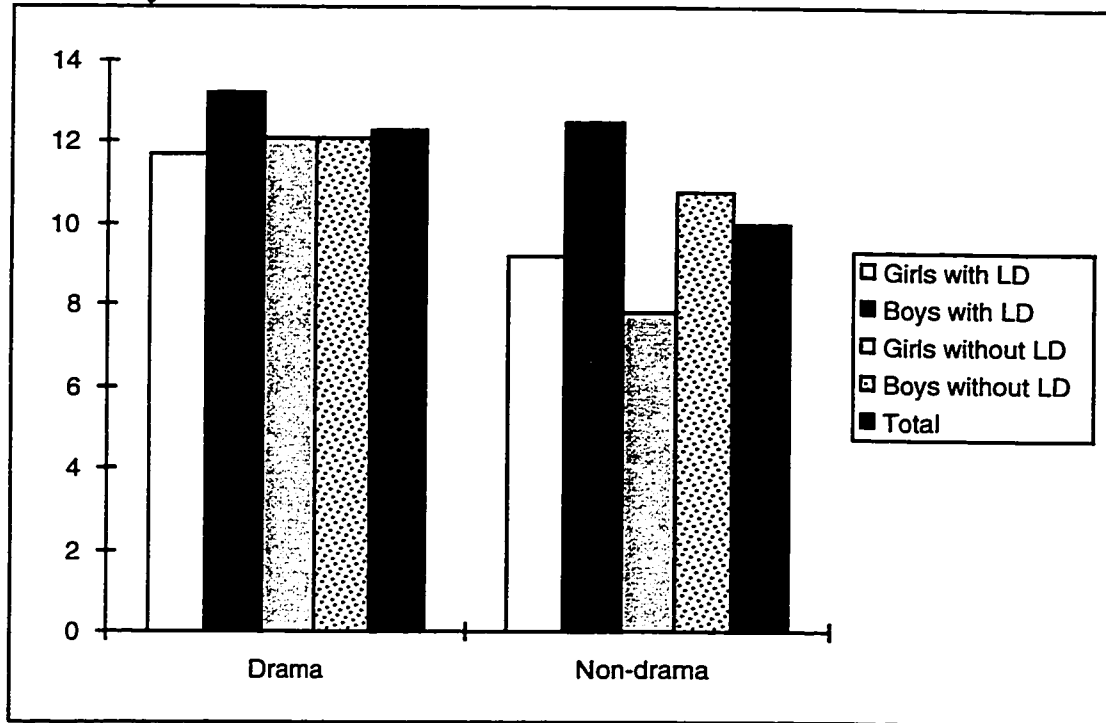
Table 14. "Total" Satisfaction Scores in the Drama and Non-drama Conditions for Ability Level and Gender

Drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	11.7	4.1	12.1	3.2	11.9	3.6
Boys	13.2	2.5	12.1	3.4	12.6	3.0
Total	12.4	3.4	12.1	3.2	12.3	3.3
Non-drama	with LD		without LD		Total	
	Means	SD	Means	SD	Means	SD
Girls	9.2	4.2	7.8	3.4	8.5	3.8
Boys	12.5	3.8	10.8	4.4	11.6	4.1
Total	10.8	4.3	9.3	4.1	10.0	4.2

Two subsidiary analyses were conducted to shed additional light on hypothesis 4. First, it may be expected that the satisfaction shown for classes may correlate with the amount of affective attunement they experienced i.e., greater amounts of affective attunement experienced may correlate with greater satisfaction with the teaching. This was tested by correlating (a) the amount of affective attunement in the Drama condition with the children's satisfaction scores for the Drama condition (Table 15 presents these correlations), (b) the amount of affective attunement in the Non-drama condition with the children's satisfaction scores for the Non-drama condition (Table 16 presents these correlations), and (c) the combined amount of affective attunement in the Drama and Non-drama conditions with the children's satisfaction scores (Table 17 presents these correlations). There is some evidence that student satisfaction for classes is related to the amount of affective attunement they experienced. Tables 15

and 16 reveal only one significant finding, i.e., between affective attunement with the teacher and the "more" satisfaction score [$r(48) = .311, p = .03$].

Figure 4. Total Satisfaction Scores in the Drama and Non-drama Conditions for Ability Level and Gender.



The correlations from the combined Drama and Non-drama conditions are more revealing of a relationship. Affective attunements with the teacher correlated significantly with how much the children believed they learned in the lessons [$r(48) = .211, p = .04$], how much they wanted more of the lessons [$r(48) = .260, p = .01$], and the total satisfaction score [$r(48) = .264, p = .01$]. Further, affective attunements with the teacher approached significance with how much the children liked the lessons [$r(48) = .188, p = .07$]. These findings suggest a relationship between interpersonal connections with the teacher and satisfaction scores. That is, students who had greater amounts of affective attunement with the teacher were also the most pleased with the

Table 15. Satisfaction Scores in the Drama Condition Correlated with Affective Attunement Scores (p values in brackets)

	"like"	"learn"	"more"	total
Affective attunement with match	.053 (.72)	.058 (.70)	.019 (.90)	.054 (.72)
Affective attunement with others	.157 (.29)	.130 (.38)	.212 (.15)	.107 (.47)
Affective attunement with teacher	.142 (.34)	.180 (.22)	.311 (.03)	.275 (.06)
Affective attunement combined	.175 (.23)	-.082 (.58)	.236 (.11)	.145 (.33)

Table 16. Satisfaction Scores in the Non-drama Condition Correlated with Affective Attunement Scores (p values in brackets)

	"like"	"learn"	"more"	total
Affective attunement with match	-.154 (.30)	-.114 (.44)	.007 (.97)	-.098 (.51)
Affective attunement with others	-.125 (.40)	-.069 (.64)	-.068 (.65)	-.101 (.50)
Affective attunement with teacher	.119 (.42)	.136 (.36)	.115 (.44)	.114 (.33)
Affective attunement combined	-.186 (.21)	-.113 (.44)	-.058 (.69)	-.136 (.36)

teaching. The combined Drama and Non-drama total affective attunement scores had significant correlations with how much the children liked the lessons [$r(48) = .211$, $p =$

.04], how much they wanted more of the lessons [$r(48) = .257, p = .01$], and the total satisfaction score [$r(48) = .235, p = .02$]. These findings support a relationship between affective attunement and satisfaction scores; students who had greater amounts of total affective attunement were also the most pleased with the teaching.

Table 17. Satisfaction Scores in the Drama and Non-drama Conditions Combined Correlated with Affective Attunement Scores (p values in brackets)

	"like"	"learn"	"more"	total
Affective attunement with match	.117 (.26)	.123 (.23)	.121 (.24)	.144 (.16)
Affective attunement with others	.189 (.07)	.064 (.54)	.226 (.03)	.193 (.06)
Affective attunement with teacher	.188 (.07)	.211 (.04)	.260 (.01)	.264 (.01)
Affective attunement combined	.211 (.04)	.111 (.25)	.257 (.01)	.235 (.02)

Second, it may be expected that preference for classes may be correlated with academic gain scores; i.e., the more the students learned, the more they preferred the classes. Table 18 presents the correlations between gain scores in the (a) Drama condition, (b) Non-drama condition, and (c) combined Drama and Non-drama conditions. Significant correlations were found between the combined gain scores and the students satisfaction score "more" [$r(48) = .229, p = .03$] and the total satisfaction score [$r(48) = .199, p = .05$]. This gives some support to the suggested relationship between amount of student learning and preference for the classes.

Table 18. Satisfaction Scores Correlated with Gain Scores (p values in brackets)

	"like"	"learn"	"more"	total
Drama gain scores	.000 (1.0)	.082 (.58)	.141 (.34)	.099 (.50)
Non-drama gain scores	.112 (.45)	.081 (.59)	.212 (.15)	.161 (.28)
Combined gain scores	.121 (.24)	.141 (.17)	.229 (.03)	.199 (.05)

There is some support for a relationship between (a) the satisfaction shown for classes and the amount of affective attunement students experienced, and (b) for satisfaction with classes and academic gain scores. The raw student satisfaction scores are presented in Appendix F.

Conclusion

In conclusion, the findings support the hypotheses that (a) the use of drama based techniques in teaching increases the amount of affective attunement occurring within the classroom, (b) students have greater improvement in academic test scores when exposed to a Drama condition compared to a Non-drama condition, and (c) there is greater general satisfaction shown for the drama based teaching than the non-drama based teaching. There was some support in the findings for a relationship between (a) affective attunement and improved academic performance, (b) satisfaction shown for classes and the amount of affective attunement students experienced, and (c) satisfaction with classes and academic gain scores. There was no support found for greater improvement in lesson gain scores nor greater satisfaction for children with learning disabilities over children without learning disabilities in the Drama condition.

CHAPTER FOUR

DISCUSSION

This chapter presents a summary of the study with a discussion of the findings and their potential implications. It attempts to situate the work relative to the larger body of literature regarding affective attunement, drama in education, and children with learning disabilities. The findings are evaluated in terms of the proposed hypotheses; the validity, limitations, and possible weaknesses of the study are also explored. Also, recommendations for future research are made.

General Purpose of Study

This study was conceived from a concern for the lack of academic success some children with learning disabilities experience. It was postulated that children with learning disabilities may be able to learn through means other than what is typically offered in "traditional" teaching. This study represents an attempt to shed light on a small aspect of this problem by examining a drama based teaching method designed to increase affective attunement in the learning situation, which was hypothesized to improve children's academic performance.

Affective attunement was first discussed by Stern (1985) with regard to a special interpersonal connection between mothers and infants. Some researchers indicate that affective attunement is vital for social/emotional growth (Holmes, 1993; Stern, 1985) and feeling emotionally connected with others (Fouts 1994; Hrynychuk & Fouts, 1998). Drama based teaching seeks to create a milieu that supports and encourages affective attunement (mutuality focus, similarity of emotions, and a sense

of oneness) among class participants so that active performance-based learning can be done. Children with learning disabilities often have weaknesses in reading and writing, but traditional teaching strategies focus upon these and assume that children can and want to learn through these two skills. Drama may offer an alternate method of teaching because it may teach to the strengths of these children rather than their weaknesses. It may be that through drama, students with learning disabilities may utilize their strengths by emotionally connecting with others and the materials.

This study focused on 24 matched pairs, in which there was a child with learning disabilities and a child without learning disabilities. Each child completed a pretest, engaged in a lesson in one of the two teaching styles (drama based or non-drama based) and then wrote a post test. This was then repeated using the other teaching style. The incidents of affective attunement under each teaching style were coded for each child of the matched pair and each child's satisfaction scores were noted.

Hypotheses

Hypothesis 1

It was hypothesized that there would be more incidents of affective attunement in drama based teaching among the students and between the teacher and students than in the non-drama based lessons. This hypothesis was clearly supported by the finding that there was (a) six times the frequency of affective attunement occurring with the matched peer, (b) over three times the frequency of affective attunement occurring with all other students in the class (not including the matched peer), (c) twice the frequency of affective attunement occurring with the teacher, and (d) nearly four times the total frequency of affective attunement occurring within the classroom (summing across matched peers, other classmates, and the teacher). This gives support to the

suggestion that drama based teaching encourages mutual focus, similarity of emotions, and a sense of oneness among class participants.

Greater incidents of affective attunement may be due to the spontaneous enjoyable nature of play which underlie many drama activities. The sense of play often allows participants an emotional freedom and more open emotional behaviour which may promote more spontaneous emotion based interactions with others. This is consistent with Stern's (1985) descriptions of mother-infant affective attunement which typically occur while mother and infant are playing or engaging in playful moments. Thus, the activities in drama based teaching promote children to engage in playful, emotionally spontaneous behaviour which may help create greater opportunity for affective attunement.

Creative drama and role play examine human experience from an emotional prospective (McCaslin, 1996; Heathcote, 1972) and may increase the incidents of affective attunement by encouraging children to explore feelings and to engage with one another on an affective basis. For example, role playing may encourage students to negotiate and interact with one another more than in more traditional classrooms in which the focus of students' attention is nominally the teacher. This interaction between the children may create more opportunity for the three criteria of affective attunement to occur.

Affective attunement occurs more readily in drama possibly because of the emotionally safe and supportive milieu in drama. Engagement with one another and the material in drama requires cooperation and emotional openness that can best be done when students are sensitive to one another's needs. In order for students to learn in drama class the group should exhibit cooperation, social awareness, and mutual sensitivity. Therefore, in a functioning drama class the students accept the emotional/social requirements and engage with one another in a manner which

encourages affective attunement. That is, the emotionally supportive milieu in drama may encourage positive emotional expression and the greater likelihood of matching of those emotional expressions with one another.

The creation of an emotionally safe and supportive milieu may begin with the drama teacher modeling the type of behaviour that is the criteria for affective attunement (similarity of emotions, mutual focus, and sense of oneness). A compassionate and emotionally open drama teacher may model for the students the kind of behaviour expected and this may encourage students to engage in the type of behaviour which encourages affective attunement.

Frequencies of affective attunement were similar in children with and without learning disabilities. Both children with and without learning disabilities exhibited greater amounts of affective attunement in the Drama condition compared to the Non-drama condition. This suggests that with regard to affective attunement, children with learning disabilities are not deficient, that is, even though these children were performing below the class average with regard to academics they were not below the class average in their ability to affectively attune with others.

There is an important caveat in interpreting these and other results. The teacher of the classes was also the researcher. This problem is related to the Hawthorne effect. The researcher's interests in finding more affective attunement in the Drama condition may have caused him to teach in a more interesting manner that increased affective attunements between the children rather than the difference being the result of drama based techniques. He may have also engaged with children more and unwittingly encouraged affective attunements in the drama lesson while being more emotionally distant and aloof during the non-drama lesson thus discouraging students in the latter classes from becoming affectively attuned. Since the researcher was aware

of this problem, he attempted to treat each class in a similar manner other than the drama and non-drama manipulation.

The findings clearly indicate that there was greater affective attunement in the Drama condition. This may be due to the drama techniques themselves and also to the teachers expecting and modeling greater emotional openness, spontaneity, and interpersonal sensitivity. That is, it may be that drama incorporates both processes in creating increased affective attunement: activities that use the emotional domain and the expectancies and subtle behaviours of the teachers. These two phenomenon may be a "natural confound;" they naturally occur together in actual classroom teaching.

On the other hand, it is important to know whether drama based techniques, independent of belief, expectancies, and subtlety, can increase affective attunement in classroom settings containing children with and children without learning disabilities. Such knowledge would facilitate the training of teachers as well as increase the effectiveness of assessing teaching styles which emphasize interpersonal relatedness and emotional connection with the materials.

The researcher/teacher engaged with the students according to the needs and expectations of the respective teaching conditions. Teachers in non-drama classes exhibit the behaviour they wish their students to exhibit such as polite behaviour and logical discussion. In a non-drama class, a teacher is often expected to exert "control" in order to have a quieter class which may reduce the opportunity for affective attunement. For example, during solitary writing activities, it is expected that children work on their own and not disturb others.

Teachers of drama classes also model behaviours they wish the students to exhibit such as encouraging mutual focus, displaying positive emotions, and exhibiting an openness to engaging in a sense of oneness (which are the criteria for affective attunement). The control in a drama class frequently shifts from the teacher to the

students. In drama classes children often organize themselves within small groups and engage in activities with minimal teacher control. The control of who is allowed to speak and how the group organizes the development of ideas belongs primarily to the group. Children in such situations often remain involved with one another as continual cooperation and interaction are required in order to accomplish the tasks set out. The increased group interaction generates more opportunity for interpersonal involvement and affective attunement.

The finding of more affective attunement in drama based teaching may help to clarify the potential value of using drama as a teaching methodology. If affective attunement is important for social/emotional growth and learning in social situations, then this may impact which teaching methods teachers choose to use. That is, drama based methodology may be more applicable to certain topics and classes than others depending on the desired outcome, the nature of class, and the content.

This may also impact on teacher training. If affective attunement is important to children's growth, then developmental methodologies that encourage affective attunement should become part of a teacher's training curriculum. Jagla (1994) and Whatman (1997) both suggest that drama based teaching methodology is valuable in teaching and should be incorporated in teacher training.

The finding that girls had 1.3 times greater frequency of total affective attunements than the boys may reflect the greater socialization of girls. It may also indicate that girls tend to interact more with one another than do the boys (Gilligan, 1982).

Hypothesis 2

It was hypothesized that there would be greater improvement in the academic performance of children exposed to drama based teaching than non-drama based teaching. This hypothesis was supported by the findings; the overall mean gain score

(improvement between pretest and post test) in the Drama condition was approximately four times that in the Non-drama condition. That is, the drama based condition had a considerably greater impact on academic performance than in the "traditional" teaching style.

This finding is consistent with the suggestions made by several writers and educators that active learning is important for children (Cortines, 1996; Demo, 1984b; Johnstone, 1992). The suggestion that components of drama classes such as kinesthetic learning, increased emotional connection to the material, and increased student creativity may help academic learning (Hootstein, 1994b; MacGregor et. al., 1977) is also supported by the findings of this study.

Booth and Haine's (1983) arguments that drama engages students in the higher levels of Bloom's taxonomy may also be supported by the findings of this study. Using thinking skills from the higher levels may have increased students learning. The findings also support Way (1967) and Neelands' (1984) contention that drama can improve learning by sparking a spirit of inquiry. The findings of this study suggest that teachers may wish to use drama techniques in their teaching strategy in order to improve the academic performance of their students. For example, they may wish incorporate role play in a lesson in order to maximize the students' sense of connection with the material. This study suggests that drama should be a part of teacher's repertoire of teaching strategies, however, it is important for teachers to carefully consider the advantages and disadvantages of drama based teaching. Kauffman and Pullen (1996) advocate that teachers use a variety of teaching strategies and this study suggests that drama should be one of those strategies.

The present study was designed on the premise that the critical ingredient in drama based teaching was affective attunement and that the mutuality of focus, evocation of similar emotions, and sense of interconnectedness facilitate the learning of

academic materials. Although affective attunement was definitely elicited in the teaching conditions, it is not clearly known whether the increased affective attunement in the Drama condition was the factor causally linked to improved academic performance. This was examined by correlating the frequencies of affective attunement in the two conditions to the gain scores, with the assumption being that the greater the amount of affective attunement, the greater the academic improvement. An examination of these correlations revealed that there was some significant correlation between gain scores and frequency of affective attunement when they were collapsed over the two teaching conditions. However, this lack of clarity regarding the academic performance and affective attunement relationship may be understood in two ways. First, perhaps the assumption of frequency of affective attunement and amount of learning may be faulty. That is, there may not be a one-to-one correspondence between amount of affective attunement and amount of learning. It is not known whether once a certain degree of affective attunement is achieved, that additional amounts may not improve learning. Perhaps there is a minimal level of affective attunement required to benefit learning and this was not achieved in the Non-drama condition, but was in the Drama condition. Thus, the significant improvement to a certain degree (which is unknown) in affective attunement in the Drama condition may have resulted in the improved gain scores.

Second, perhaps factors in the Drama condition, other than affective attunement, resulted in the improved gain scores such as kinesthetic or tactile learning, higher levels of thinking, increased student creative input, or greater sense of self-control. Thus, affective attunement may not have been the only contributing variable in academic improvement found in the Drama condition. On the other hand, it may be the case that these seemingly uncontrolled or confounding factors are, in fact, variables and processes which facilitate affective attunement in drama based teaching. That is,

they are part of the teaching process which arguably permit affective attunement to occur, which also facilitates academic learning.

Hypothesis 3

It was hypothesized that children with learning disabilities would show greater improvement in academic achievement compared to a group of children without learning disabilities in the Drama condition over the Non-drama condition. This hypothesis was not supported; the underlying assumptions regarding how children with learning disabilities may learn in the affective domain to a greater degree than children without learning disabilities may be incorrect.

It was assumed that the Drama condition would increase involvement and attention of children with learning disabilities to a greater degree than children without learning disabilities because children with learning problems would be more comfortable learning in the affective domain. It may be that children, regardless of whether they have learning disabilities or not, can learn in the affective domain. Drama may have improved comfort, involvement, and attention in all the children; however, it did not seem to improve these in children with learning disabilities to a greater extent than in other children. It may be that both groups gained in these areas to similar degrees. The children with learning disabilities may have been comfortable in the Drama condition due to the focus on the affective domain, however, they may have also been comfortable in the Non-drama condition because of the familiar work (reading and writing) and the familiar setting (desks in rows).

It was expected that while working in the affective domain, children with learning disabilities would exhibit a greater frequency of affective attunement which would improve attention to the teacher and to the material. Children with learning disabilities did not exhibit greater or lesser frequencies of affective attunement. If they had then there may have been a difference in academic achievement. That is, the major

hypothesis of the study was that drama based teaching would promote affective attunement which in turn would facilitate learning. The children with learning disabilities did not have greater or lesser amounts of affective attunements. It may be that if there had been more affective attunement in the learning disabled children, then the hypothesized learning difference would have occurred in the Drama condition.

It was expected children with learning disabilities would under perform in the Non-drama condition due to the teaching emphasis on cognition; whereas, they would be facilitated by drama because the affective and physical domains were employed which may have increased their motivation to learn. It was also assumed that group of children without learning disabilities would understand the cognitive points and remain engaged in the Non-drama condition. The children with learning disabilities did not have significantly different academic gains in either the Drama or the Non-drama condition from the children without learning disabilities. Winzer (1996) suggests that there is a gap in the academic achievement of children with learning disabilities compared to children without learning disabilities and that it becomes larger as children progress through school. This was not supported by this study, however, it may be that such a gap would be noticed if this research was extended over a greater time period of time.

These findings support McCaslin's (1996) suggestion that children with learning disabilities are more "similar" to children without learning disabilities than they are "different." It appears to be the case that both types of children are facilitated by drama based teaching; i.e., using emotional involvement and interconnectedness helps most children to learn academic materials. The lack of differential facilitation may also suggest that all children have strengths and weaknesses that are unique to them. A child who is weak academically may not necessarily have compensating strengths in other areas. That is, although children with learning disabilities may have cognitive

deficits, it does not necessarily imply that their emotional and physical domains are stronger.

The operational definition of learning disabilities is an important issue in this discussion. That is, the sample may not have been representative of children with learning disabilities and children without learning disabilities. Children defined as learning disabled were chosen from the IPP program and these children differed from one another as well as non-IPP children. Some of the children on IPPs may have had family problems which may have been the primary reason for their poor academic performance as opposed to deficits in academic skills. Similarly, children not in IPPs may have had learning disabilities but received tutoring outside of school or had extra help at home so that their academic standing was sufficiently high that were not in an IPP. Thus, the two groups of children may not have been discrete representatives of children with and without learning disabilities.

Hypothesis 4

It was hypothesized that there would be greater satisfaction shown for drama based teaching than non-drama based teaching. The hypothesis was supported by the findings; the total satisfaction scores for the Drama condition was 1.3 times greater than the total satisfaction score for the Non-drama condition.

There may be many reasons for the children's greater satisfaction with drama based teaching. The children may have enjoyed the novelty of learning in the affective domain or the activities which allowed for greater interpersonal connection and affective attunement. This is consistent with O'Neill (1995) who suggests that children value having creative input and interpersonal connections in drama based learning. They may also have enjoyed the milieu in which mutuality of focus, simultaneity of emotions, and a sense of oneness were encouraged.

The findings support Way's (1967) suggestion that children enjoy drama lessons because they are novel and a break from the more traditional teaching to which they are exposed. The findings also support Slade's (1954) suggestion that drama has important elements of play which is a natural activity that children engage in for enjoyment. Such play according to Stern (1985) provides spontaneity and flexibility which allows affective attunement to occur.

The present study was designed on the premise that the critical ingredient in drama based teaching is affective attunement. In order to investigate whether the preference for drama based teaching was due to differences in affective attunement between the two teaching conditions, correlations were examined between the frequency of affective attunement and satisfaction scores in each condition. There was some support for a relationship between frequencies of affective attunements with the teacher and satisfaction scores. That is, students who had greater amounts of affective attunement with the teacher were also the most pleased with the teaching. There was also some support for a relationship between total frequencies of affective attunement (summing the three categories of like, learn, and more) and satisfaction scores. That is, students who had greater amounts of affective attunement overall were also the most satisfied with the teaching.

A possible reason for the children's preference for drama based teaching may be that they learned more. This was examined by correlating the gain scores and satisfaction scores under each teaching condition. There was minimal correlation found between satisfaction and academic performance in the Drama or the Non-drama conditions. There were some significant correlations when the two conditions were combined, giving some support to the suggestion that success in learning may be related to children's general satisfaction with the lessons. That is, the more the students learned, the more satisfied they were with the lessons.

The overall findings are consistent with the relevant literature regarding children's preferences for engaging in drama based teaching (Heathcote, 1972; McCaslin, 1996; O'Neill, 1995; Siks, 1977, Slade, 1954; Way, 1967). Children do seem to enjoy drama based learning. A practical implication of these findings is that teachers may wish to include more drama based activities into their teaching. Thus, not only will students' enjoyment be optimized, but also improvements in children's attention and learning will occur.

Girls were found to have lower satisfaction scores for drama than boys. This could be a reflection of the fact that the teacher for both modes of teaching was a male and that same-gender teachers are preferred at this age. That is, independent of learning, affective attunement, and type of teaching, children may prefer same-gender teachers in the classroom in the fourth grade.

Subsidiary Analysis

Some research (e.g., McBride & Siegel, 1997; Mercer 1983; Meyen & Skrtic, 1988; Roberts & Zubrick, 1993; Winzer, 1996) suggests that children with learning disabilities may lack certain social/emotional skills which may then impede their ability to affectively attune. The findings from this study do not support this contention; i.e., there was no significant difference in affective attunement between children with learning disabilities and children without learning disabilities. This lack of difference suggests that perhaps affective attunement is a basic emotional skill learned very early in life and unrelated to cognitive impairment. Stern (1985) suggests that affective attunement occurs in the first year of life, long before more cognitive or language based learning occurs. Thus, to the degree that affective attunement can be promoted in class, i.e., promoting mutual focus, similarity in emotional experience, and a sense of

connectedness, then all children (with and without learning disabilities) may benefit from having drama based teaching.

Limitations of Study

There are several limitations of this research. The two teaching conditions may have employed different levels of thinking according to Bloom's Taxonomy of thinking skills. The non-drama based teaching may have primarily used the lower levels of Bloom's Taxonomy. To illustrate, the Non-drama condition employed the first two levels of thinking, knowledge (recalling information) and comprehension (interpreting prior learning), for much of the teaching by having the students complete worksheets or read some material. In the Mathematics Non-drama condition, the discussion and measuring of one another required the type of thinking found in application (using information in a new situation) which is the third level of Bloom's taxonomy. In the Non-drama Social Studies condition, the students had to exhibit comprehension (the second level) by paraphrasing the stories they read; they also showed application (third level) of their knowledge and synthesis (fifth level) by creating a journal entry as though they were living in the 1930's.

In contrast, the drama based lessons required students to learn by becoming the objects and people of their study. This may have required higher order thinking. In the drama based Mathematics lesson, students "became" the measurements that they were studying. Children not only had to recall and interpret information (the first two levels), but also to apply the information (third level) and to create their original creature (fifth level). In the creation of the creature, most groups also exhibited the fourth level, analysis (classifying and comparing their creature with other creatures to determine if theirs was similar). The activities of pretending, inventing, and creating are

all aspects of synthesis, the fifth level of Bloom's taxonomy. Evaluation, the sixth and final level, was used within the drama based classes when students gave their opinions, evaluated their priorities, and made decisions (e.g., the decisions to invest their money in the stock market).

The possible difference in the use of Bloom's levels of thinking may have then resulted in greater learning in the Drama than the Non-drama condition, with the associated preference for the drama based lessons. However, this possible confound may be mitigated by two considerations. First, the pretests and post tests were primarily testing at the first two levels of Bloom's taxonomy. Therefore, any performance differences between the two groups could not be due to the tests assessing higher thinking levels to which some students may not have been exposed. Second, higher order thinking may be inherent in any drama based teaching. That is, it is not truly a confound but part of the processes of involvement in drama.

A second limitation may be that different learning atmospheres were generated in the Drama and the Non-drama conditions. For example, in the Non-drama condition, students were expected to work at their desks and to work on their own for part of the class. Although group work was permitted for part of the Non-drama class, some students chose not to work with others. Also, some of these students worked as quickly as possible so that they could play hand-held video games or read other books. The atmosphere in the Drama condition encouraged constant involvement with one another, social enjoyment, cooperation, and coordination with one another. These differences may have led to the results of improved academic performance and preference for drama based teaching. However, the milieu in the drama class that encourages affective attunement and helps cognitive understanding and retention may be inherent in any drama based lessons rather than being considered as possible confounds. That is, drama based teaching involves a complex array of variables and

processes, which in combination produces greater frequency of affective attunement, improved academic performance, and a higher level of satisfaction among children.

A third limitation involves the lack of clear relationship between the amount of affective attunement and academic performance. Although affective attunement was clearly promoted and there was higher academic performance in the Drama condition, it is not known what level of affective attunement is sufficient for academic gains to be manifest. Also, there is likely considerable individual variation in levels of affective attunement desired and how it may facilitate learning in different students. For example, some students may require affective attunement with others *and* the teacher for gains to occur; for others, perhaps affective attunement with only one other person may be sufficient.

A fourth limitation is the method of assessment of academic performance. Very brief, short answer questions were employed in the pre and post tests. It may be the case that if essays had been used, there may have been even greater improvement in the Drama condition and the relationship between frequency of affective attunement and academic performance could have been found. That is, testing at a more complex level and/or having a greater range of scores on the pre and post tests may have more accurately assessed the relationship between affective attunement and academic performance.

A fifth limitation relates to the generalizability of the findings. For example, only one teacher (male) was used, only two contents were used, and a particular operational definition of learning disabilities was used. It is not known whether the use of different teachers, a variety of lesson contents, and a clearer categorization of children with learning disabilities versus children without learning disabilities may have resulted in stronger findings, or perhaps less support of the hypotheses.

Implications of the Research

The increased amount of affective attunement found in the Drama condition in this study could be informative to the drama/theatre community. It may be that the definition of affective attunement provided by Stern (1985) can help to clarify Stanislavski's concept of communion. It could also more clearly indicate the value of orientation or warm up exercises to a group of actors. If drama games can produce a great amount of affective attunement between group members, then they may be important to the social and emotional cohesion of a group of performers.

The finding of more affective attunement in drama based teaching may help to clarify the potential value of using drama as a teaching methodology. If affective attunement is important for social/emotional growth and learning in social situations, then this may impact which teaching methods teachers choose to use. That is, drama based methodology may be more applicable to certain topics and classes than others depending on the desired outcome, the nature of class, and the content.

This study supports some researchers suggestions that student learning can be improved with a greater variety of teaching strategies that address a variety of learning styles (Smith, 1988b; Gardner, 1983). It may be that for some children learning through drama based methods could be the most efficient method of learning. That is, that for some students the components of a drama lesson such as utilization of the affective domain, active learning, and greater emotional support, are important criteria for effective learning.

Foster's (1992) suggestion that role playing calls on higher levels of thinking skills may be supported by the findings of this study. It may be that children in the Drama condition performed better on the post tests because of the higher order thinking requirements. This supports the use of drama in the classroom especially

when dealing with concepts or subjects where the students can take on a role within the examination of the concept.

The findings of this study suggest that drama should be a part of teacher's repertoire of teaching strategies; however, it is important for teachers to carefully consider the advantages and disadvantages of drama based teaching. The use of drama should be used judiciously, not over used. Kauffman and Pullen (1996) caution against using any method of teaching exclusively; rather, drama should become one of a number teaching methods that can be used.

This study did not find support for the hypothesis that drama based teaching could produce greater academic improvement in children with learning disabilities compared to children without learning disabilities. However, both groups experienced greater improvement in the Drama condition compared to the Non-drama condition. The lack of difference suggests that drama may be a method of teaching that allows learning in both children with and without learning disabilities. That is, children with and without learning disabilities may learn equally well when being taught through drama. This finding supports Brewster's (1977) idea that children with handicaps have many more commonalties with "normal" children than differences.

Winzer (1994) indicates that children with learning disabilities seem to continually slip farther behind their peers in academic performance; however, in this study, the children with learning disabilities did not under perform compared to children without learning disabilities. It may be that by accessing the affective domain children with learning disabilities will not fall behind children without learning disabilities. That is, more traditional teaching techniques may attempt to teach through reading and writing, areas that children with learning disabilities may be uncomfortable or weak in; whereas drama may teach through experience and emotion, areas where children with learning disabilities may not be relatively weaker than other students.

The study gave some support to Behr, Snyder, and Clopton's (1979) suggestion that drama activities are important to use with learning disabled children. It more fully supports their notion that through pretending, all children can better understand some concepts. The implication of this is that some lessons may be taught more efficiently if teachers used role play and pretend activities.

Children with learning disabilities under perform academically but in this study they did not under perform with regard to affective attunement . They engaged in as many incidents of affective attunement as compared to children without learning disabilities. This suggests that in this area children with learning disabilities do not functioning below the class average. This then may be a relative strength that could be utilized to improve academic performance.

Students indicated that they felt they learned more in the drama class, wanted more of the drama class, and liked the drama class more than the non-drama class. The finding that children had greater satisfaction ratings for the Drama condition compared to the Non-drama condition suggests that drama should be considered by teachers as an important part of the variety of teaching strategies that teachers should use. If children enjoy an activity then that may be an intrinsic reason to engage in the activity.

The study gives some support to the idea that if students like activities, then they may be more inclined to learn. They may also want to invest more in the activities and may thereby gain more from the activities. That is, it may be that if students' enjoyment is improved then understanding and retention of the information may also be improved. This study supports MacGregor, Tate, and Robinson's (1977) suggestion that drama in the classroom generates enormous enjoyment and commitment in children of all ages and that this enjoyment can generate opportunities for positive and sustained educational achievement.

This study also has implications for teacher training. If the affective domain is important to children, then it may be that affective attunement is an area that teachers should be concerned with. If affective attunement is important to children's growth, then developmental methodologies that encourage affective attunement should become part of a teacher's training curriculum. This study supports the suggestion that drama based teaching methodology is valuable in teaching and should be incorporated in teacher training.

This study may also lend some support to Gilligan's (1982) suggestion that there are greater socialization skills among girls. Her suggestion that girls tend to interact more with one another than do the boys is supported by the finding of 1.3 times greater amounts of affective attunements among the girls as compared to the boys. The implication to teachers may be that the girls' tendency to interact with one another should be taken into consideration when lesson planning. It may be that interactive activities should be incorporated into a days lesson to allow interpersonal communication.

Future Research

More study is needed regarding the importance of affective attunement to older children and adults. Scholars have suggested that affective attunement is extremely important to infants and that normal social/emotional development is impossible without it (Haft & Slade, 1989; Harvey & Kelly, 1993; Stern, 1985). If affective attunement is found to be important to older children then drama could be an important part of a school's curriculum. That is, if affective attunement is recognized as important in normal development of older children then encouragement of affective attunement could become an important part of a school's curriculum. Subjects in

which greater amounts of affective attunement are generated, such as drama, could gain importance.

Further study is needed on the potential use of the affective domain in increasing student academic performance. The findings of this study indicate that teaching that uses the affective domain may improve students' ability to understand and remember information. That is, teaching that engages students' emotions may improve students' academic performance.

Drama encourages a milieu that is emotionally safe, creative, supportive and incorporates play. More research is required into the nature of the milieu and the relationship to affective attunement. Also, more study on whether drama based techniques themselves, independent of the teacher's behaviours or expectancies, can increase affective attunement needs to be conducted. That is, more research needs to be done on how teacher's behaviours influence the milieu of the classroom and whether the drama exercises themselves influence the amount of affective attunement.

A study with longer exposure to drama based teaching needs to be conducted with other measures of performance. Winzer (1994) suggests that children with learning disabilities tend to fall further behind children without learning disabilities. A study with longer exposure to drama based instruction could investigate whether this phenomenon would still occur in drama based teaching. Other measures of performance should be utilized such as the Torrance Tests of Creativity to more clearly indicate other values of using drama such as increased creativity and spontaneity.

Finally this research requires replication. Future study should attempt to expand the generalizability of these findings by using a greater range of students than only grade four and using more teachers (male and female).

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APPENDIX A

COVERING LETTER AND CONSENT FORM

Dear Parents or Guardians of _____

My name is John Poulsen. I am a graduate student in the Department of Educational Psychology (Community Rehabilitation) at the University of Calgary, conducting a research project under the supervision of Dr. G. Fouts (Department of Psychology), as part of the requirements towards a Ph. D. degree. I am writing to provide information regarding my research project *Drama Based Instruction and Learning*, so that you can make an informed decision regarding your child's participation.

The purpose of the study is to examine how drama based teaching compares with more traditional forms of teaching. I believe that drama based teaching uses expressive activities, improvisations, and group interaction to foster enjoyment, attention and connection to the material, instructor and fellow classmates. This type of teaching will be compared with more traditional teaching to determine its effectiveness in increasing learning of academic subjects (e.g.. Social Studies or Math).

As part of this study your child will be asked to take part in two 45 - minute classes taught by me. One class will be drama based, the other will be more traditional. I have taught school children and hold an Alberta Education Permanent Professional Teaching Certificate (139695K). In order to assess the effectiveness of the teaching, before and after each class the children will be asked to write a short test (approximately 10 minutes each) assessing the knowledge of the academic contents taught by the two teaching styles. The classes will be videotaped and analyzed.

You should be aware that even if you give your permission your child is free to withdraw at any time for any reason and without penalty. No school personnel will have access to any child's test results. Participation in this study will involve no greater risks than those ordinarily experienced in daily life.

Data will be gathered in such a way as to ensure anonymity. After the videotapes have been scored and test data has been matched with the observational data, all names and identifiers will be deleted from the data bank to ensure anonymity. All data and video tapes will be kept in a locked filing cabinet during the study and will be destroyed upon completion of the study. I will then be left with numbers which will be analyzed and used to complete my dissertation. Only group results will be reported in any published studies.

If you have any concerns please call me at (403) 329-2463, my supervisor, Dr. G. Fouts, at (403) 220-5573, the Office of the Chair Faculty of Education Joint Ethics Committee at (403) 220-5626 or the Office of the Vice President (Research) at (403) 220-3381. Two copies of the consent form are provided. Please return one signed copy to me and retain the other copy for your records.

Thank you for your assistance.

Sincerely

J. C. Poulsen

Consent for Research Participation

I/We, the undersigned, hereby give my/our consent for _____ to participate in a research project entitled *Drama Based Instruction and Learning*.

I/We understand that such consent means that _____ will take part in two 45 - minute classes and will write four short tests. The teaching sessions will be video taped for later analysis.

I/We understand that participation in this study may be terminated at any time by my/our request or at the request of the investigator. Participation in this project and/or withdrawal from this project will not adversely affect me/us or _____ in any way.

I/We understand that this study will not involve any greater risks than those ordinarily occurring in daily life.

I/We understand that the responses will be kept in strictest confidence.

I/We understand that only group data will be reported in any published reports.

I/We have received a copy of this consent form for my/our records. I/We understand that if I/We have any questions I/We can contact the researcher (John Poulsen) at 329-2463, the supervisor (Dr. G. Fouts) at 220-5573, the Office of the Chair, Faculty of Education Joint Ethics Committee at 220-5626, or the Office of the Vice-President (Research) at 220-3381.

Date

Parent or Guardian's Signature

Participants printed name

Participants signature

APPENDIX B

LESSON PLANS

Measurement DRAMA-BASED LESSON

Subject - Mathematics

Area - Measurement (mm, cm, m, km)

Goal - To estimate accurately using the most applicable form of measurement.

Grade - 4 Time - 45 minutes

Background information - Students may have had little experience with me. Control may be a problem.

Materials - A large open classroom.

Objectives - The students will be able to identify and estimate the measurements mm, cm, m, and km.

The students will be able to state the how many mm are in a cm, cm in a m, and m in a km.

Objective Statement - The students will engage in a variety of activities which will deal with mm, cm, m, and km.

Words in *italics* are what the teacher may say.

Write pre-test

Introduction - Indicate that today's lesson will deal with measurement.

Set - Showing and giving examples of what mm, cm, m, and km are. Get ideas from the students. *Everyone show me how big a mm is. Show me how big a cm is. Show me how big a m is.* Showing the relationship between each measurement. E.g.. 10 mm = 1 cm, 100 cm = 1 m, 1000m=1 km.

Activities - Establish a control mechanism. Walk and freeze. Walk big, small, normal and freeze.

Walk really tiny. Which measurement are you right now, mm, cm, m or km” Walk normal. Walk small (not teeny) Walk really big. Which measurement are you right now, mm, cm, m or km

Discuss what sorts of creatures are normally measured using mm.

I’m going to ask you to take on a role. As a group I would like you to be a group of those teeny insects. As teeny-millimetres-insect group answer my questions. ‘What size are you? How many millimetres are you across?

In groups the children will decide on what they could create that is normally measured in mm and create it with their bodies.

Create groups of 3 or 4. Decide on a common creature that is between 2 and 150 mm tall or long. Create it. Circulate and help.

Give them about 4 minutes then have them show one another.

In groups the children will decide on what they could create that is normally measured in cm and create it with their bodies.

What size of things can be measured using cm? From what to what? (~2 to 150) Get the students to estimate.

In the same groups. "Decide on a common creature that is between 2 and 150 centimetres tall or long. Create it. Walk around and help.

Give them about 4 minutes then have them show one another.

In groups the children will decide on what they could create that is normally measured in m and create it with their bodies.

We have created creatures that are measured in mm and cm. What is next? (Metres)

How many cm in a metre? What size things do we measure with metres. Show me.

(1/2 to 500) What animal or thing could be measured in metres.

In the same groups. "Decide on a common creature that is between a half a metre and 500 metres tall or long. Create it. Circulate and help.

Give them about 4 minutes then have them show one another.

As an entire class the children will decide on what they could create that is normally measured in km and create it with their bodies.

We have created creatures that are measured in mm, cm, and m. What is next?

(Kilometres) How many m in a kilometre? What size things do we measure with kilometres. (a half and over) What thing could be measured in metres.

As an entire class discuss what is normally measured in km. Get the children to be a road and a tidal wave.

If there is time each group should pick their favorite creature and make it move.

Closure - Review mm, cm, m and km. Have the children sit in a circle. Discuss mm, cm, m, and km. Discuss what occurred today. How will you remember what size a mm is, a cm is, a m is, and what size a kilometre is? Group comments on what occurred.

Evaluation - the circle culmination is a review and informal test. Doing this should indicate what the students have learned.

Self pointers- this may be a noisy class, clarify from the beginning that they must give attention at certain points.

Follow up - The post test in 2 or 3 days.

Measurement NON-DRAMA-BASED LESSON

Subject - Mathematics

Area - Measurement (mm, cm, m, km)

Goal - To estimate accurately using the most applicable form of measurement.

Grade - 4 Time - 45 minutes

Background information - This could be the first or second lesson with the children therefore control may be a problem may be a problem with the students as they may see me as a substitute.

Materials - rulers (30), metre sticks (12), worksheets for mm, cm, m, and km.

Objectives - The students will be able to identify and estimate the measurements mm, cm, m, and km.

The students will be able to state the many mm are in a cm, cm in a m, and m in a km.

Objective Statement - the students will engage in a variety of activities which will deal with mm, cm, m, and km.

Words in *italics* are what the teacher may say.

Write pre-test

Introduction - Indicate that today's lesson will deal with measurement.

Set - Showing and giving examples of what mm, cm, m, and km are. Get ideas from the students.

Set - Use forefinger and thumb to estimate measurement-*Everyone show me how big a mm is. Show me how big a cm is. Using hands -Show me how big a m is. Showing the relationship between each. E.g.. 10 mm = 1 cm, 100 cm = 1 m, 1000m=1 km.*

Activities - Establish a control mechanism. Indicate that the students should work on task and that some talking will be allowed after completing the first sheet. *When quiet is requested please be respectful and stop talking.*

Have a student hand out the mm worksheet. *Work on this individually.* When the students have finished with this sheet they should come up and have a short verbal test. e.g., *Show me how long a mm is. Show me how long 10 mm are. Show me 40 mm.*

Hand out cm worksheet and allow students to work in pairs or groups of three. When students have finished bring up the worksheet and have a short verbal test. For example: *Show me how long a cm is. Show me how long 10 cm are. Show me how long 40 cm are.” How many mm in 1 cm? How many mm in 5 cm.*

Hand out m worksheet and allow students to work in pairs or groups of three. When students have finished bring up the sheet and have a short verbal test. For example:

Show me how long a m is. Show me how long 10 m are. Show me how long 100 cm are. How many cm in 1 m? How many cm in 1 m.

Hand out km worksheet and allow students to work in pairs or groups of three. When students have finished bring up the sheet and have a short verbal test. For example:
How long is a km? How many km is to your house from here? About how many km are there to Taber (Lethbridge)? How many m in 1 km? How many m in 5 km.

Place children in groups of 4 or 5. Dispense 2 meter sticks per group. Assign a recorder in each group. The recorder should create a grid. Show on board:

	height	arm span
name		
name		
name		
name		

Each group is to measure the height and arm span of all its members. Ask for 3 volunteers and show how it is to be done. Two people measure. One person is the recorder and the last person is being measured. Organize the groups. Who is going to be measured first? Second? Third? Fourth? Fifth? Go.

Keep the class on task. When there is about 8 minutes left stop the entire class and have them all show their recorder sheets. Indicate that each member of the class will report what their height and arm span are. Give an example. _____ *what is your height? And what is your arm span?*

With about 5 minutes left ask each child what their height and arm span is.

Closure - Ask questions of each group about measurement. *Show me how big a mm is. Show me how big a cm is. Show me a m.*

Have individuals state the comparisons of mm to cm, cm to m, and m to km.

Follow up - The post test in 2 or 3 days.

Evaluation - Doing this should indicate what the students have learned. The teacher will check for understanding by watching the behaviour and listening for verbal clues from the students. In the closure exercise students should indicate understanding of the following: size of a mm, cm, m, km; the relationship between mm and cm, cm and m, and m to km.

Students will write a post test.

Art of Teaching - This may be a noisy class, clarify from the beginning that they must give attention at certain points.

The Great Depression NON DRAMA BASED LESSON

Subject - Social Studies / Drama

Area - The Great Depression

Goal - To investigate what the Great Depression was and its effect on the lives of the people of Alberta, in urban and rural centres.

Grade - 4

Time - 45 minutes

Background information - Students may have had little experience with a me. There is a great range of abilities in the classes.

Materials - Chalk, Erasers, The Kanata kit (30 student booklets, the Great Depression filmstrip and audio tape), paper and pencils.

Objective - The students will be able to identify:

- what was life before the depression
- when the Great Depression started
- what destroyed the farmers crops
- who were the drifters
- what ended the Great Depression

Objective Statement - the students will engage in a variety of activities which will deal with people's experiences during the Depression.

Words in *italics* are what the teacher may say.

Write pre-test

Introduction - Briefly introduce the depression. *The Great Depression began in 1929 ended in 1939. For many it was a time of depravation. For others it was not so bad.* Establish a control mechanism. *Please be polite to each other and to me. When I ask for your attention please give it to me.*

Set 1 - Establishing a connection with the Great Depression e.g., grandparents living in the 30s. *Did any of your grandparents live through the Depression? Has anybody spoken to you about the Depression? What have you heard about the Depression?*

Activities- Have 2 students dispense the student booklets.

Looking at photos. Ask them to open to page 25 and to look at the photograph. Ask a number of students to describe what is in the photo. *How do you know that it is a dust storm and not a snow storm?* Do the same with photos on pages 26, 28, 29, 31, and 33. Encourage the students to scrutinize the photos.

Reading some short stories. Ask the students to read one of the stories on pages 25 to 28. *Chose one of these stories and read it.* Stop them as soon as about 3 children are finished and indicate that they will give a short description to the rest of the class of what their story was about. *I am going to ask everyone which section they read and what it was about.* Have most of the students paraphrase the story they read.

Show the film strip and play the audio tape. Stop and rewind both the film and the audio tape. Reshow (The information goes by so quickly the students can miss some of it). Then after the 2nd viewing rewind to specific photos and have the students describe what is in the photo.

Writing a diary entry. Have each student take out a piece of paper and write an entry into a diary or journal as though they were living in the Depression. Indicate that they are to begin with the date at the top of the page. When a majority of the students are finished have the rest of the class stop and listen to some of the diary entries. Allow them to write some more and hear some of those.

Closure - Ask questions of about the depression. Have students recall images they saw in today's class. Ask questions to clarify what they have learned. *Was everyone poor? Who were the drifters? How did they travel from city to city? What was life before the depression? When did the Great Depression start? What destroyed the farmers crops? What ended the Great Depression.?*

Write Post Test

Follow up - A short story researched in groups about a moment during the depression.

Evaluation - The teacher will check for understanding by watching the behaviour and listening for verbal clues from the students. In the closure exercise students should indicate understanding of some of the following: what was life before the depression, when the Great Depression started, what destroyed the farmers crops,

who were the drifters, and what ended the Great Depression. Students will write a post test.

Art of Teaching - This is a large lesson make sure there is time for the wrap up.

The Great Depression DRAMA-BASED LESSON

Subject - Social Studies / Drama

Area - The Great Depression

Goal - To investigate what the Great Depression was and its effect on the lives of the people of Alberta, in urban and rural centres.

Grade - 4

Time - 45 minutes

Background information - Students may have had little experience with a drama classroom. As such they may need some pointers on how to contribute to the class - Their energy is wanted at certain points but their attention is also needed at certain points.

Materials - Chalk, Erasers, Large Paper, Felt Pens, an open class room.

Objective - The students will be able to identify:

- what was life before the depression
- when the Great Depression started
- what destroyed the farmers crops
- who were the drifters
- what ended the Great Depression

Objective Statement - the students will engage in a variety of activities which will deal with people's experiences during the Depression.

Words in *italics* are what the teacher will say.

Write pre-test

Introduction - Briefly introduce the depression. *Began in 1929 ended in 1939. For many it was a time of depravation. For others it was not so bad.* Sit in a circle.

Explain how students are to behave. *Make noise. Stop. Talk. Stop. Excellent. Stand up. Sit down. Freeze. Stand up. Freeze. Sit down. Freeze.*

Set 1 - Walking in role. *I'm going to play a role as well as you folks. So when I drop into role just play along, . Get a partner. Walk in a big circle. The 1920's was a time of fun when times were good. How would you walk if you were in a time of prosperity when you had a nice house, food on the table and money to spend? Talk to others as though you made a lot of money on the stock market. How would you feel if you were in a time of depression?. How would you walk if you had very little? If your home was taken away? If you had little food or money? Talk to others as though you have just lost everything.*

Activities- Place students into groups of 3, 4 or 5. Warm up physically. Get the sense of what the Roaring Twenties were like. *Walk with your group. Stop. Spread out. Come together and be real happy to see everyone. Greet everyone in your group. Spread out again. Learn the Charleston. Listen to someone playing piano. Listen to the radio. Skate. Set the time as 1926. Line up at a Movie theatre. Talk about Charlie Chaplin. What movie is playing. "The Gold Rush" with Charlie Chaplin! Great!*

In role, call out that all farmers with extra cash should invest in the stock market.

Create families. *Sit down as a group. If you folks were living on a farm and you were about 15 to 25 years old how could you all be related. Name your group. Find out names.*

Investing in the stock market activity

Students will now invest in the stock market. *Suppose that your group has just brought in this years crop and the 1926 crop was a good one.*

Talk to your group about what kind of a crop it was, about how good the crops were.

What kind of crops did you have? Wheat Barley. Oats.

Congratulations you all had bumper crops and the prices were good. You have an extra \$1000.00 to do with as you please.

You have heard that the stock market is going great. People are making a lot of money.

You decide to invest in the stock market.

You must invest a minimum of 100 but a maximum of 1000.00 decide as a group how much you would invest in 1926.

Show on board. Find out how much they would invest

A year goes by it is now 1927.

You have been extremely lucky. Your stocks have gone up by 100%. Check with each group that they have been able to do the math. A invested ____ now that money is worth _____ therefore you now have _____.

Write down the amounts each group has now.

You decide to invest in the stock market again. Minimum 100 and whatever you have as a maximum.

A year goes by and it is now 1928. The stocks you chose doubled in value again.

You decide to invest in the stock market again. Minimum 100 and whatever you have as a maximum.

October 1929. The stock market crashes. All money in the stock market is wiped out. All that you have invested is lost. Only the money you saved is left

.

The destroying the crop game.

Students will create farms.

But its OK. You still have the farm. Lets let the board represent the farms you own and I'd like you to create crops. Draw some small stalks of grain. Maybe some carrots, beans, peas, cabbages, corn. Draw it on the board. Allocate sections for each group. Show some examples on the board.

In 1930 you get an OK crop off but hail comes and wipes out some of your crops. Use an eraser to wipe out a line of crops. Check how much each group has left.

Some family members may have to leave the farm.

Because you lost some of your crop you don't have enough food to feed everyone. It will cost \$1000 to keep the extra member of your family on the farm. If you have the 1000.00 take it off your total and let all your family stay. If you don't have the money you must send one family member to the city to find work.

"City people" become plagues. Farmers must work harder to stay on the farm.

Students keep drawing crops on the board as I narrate.

Gather all the displaced people and have them sit. Its 1931 and its a new year so plant those crops. Plant in places you have never planted before.

To the city people. In 1930 dust became a big problem. If I asked you to become dust what would you look like how would you erase the crops.? Be careful don't hurt anyone and stop when I say. To the entire class. Beginning in 1931 , high winds swept

across the prairies (To the "dust" - GO.) To the class - carrying carry the valuable top layer of soil, burying some of the crops and leaving the soil in poor shape. STOP. Look at what the dust has done to your crops. It will cost you \$1000 to keep everyone on the farm. If you have it, take it from your total and everyone can stay. If not send a family member to the city.

1932 - As above this time it is Locust.

1933 - As above this time it is Sawfly

1934 - As above this time it is drought. By this time all the farms have been abandoned.

The drifters, riding the rods, and work camps activity.

Take a last look at your farm. Say good-bye. Turn and start running in place. In the depression the people who had no work and no money traveled by train. They were called drifters. or hobos It was called riding the rods. You are heading to Vancouver.

Ask the people you are running with if they are going to catch this Rod and where its headed. It is Cold as we go over the Rockies. Now there is Smoke- coughing.

Movement of the train. Get off. Role play a lumber mill owner. A store owner. Need food? Try the soup kitchen. Everyone line up an get some food. Role play the foreman on a work camp. Twenty cents a day plus room and board.. Get students to ask how much I am making. \$10.00 a day. Get back on the train. Join the army. Some basic training. Attention. Two lines NOW! Forward march.

Get back into your families.

In 1939 the 2nd world war began and all the men who had been out of work were needed. Women were needed to work in factories. Canada was back on her feet.

Closure - Ask questions of each group about the depression. Have each group decide what happened to the group. Have each group recap their experiences from the depression. Teacher will ask questions to clarify knowledge.

Write Post Test

Follow up - A short scene (researched and performed) by each group about a moment during the depression.

Evaluation - The teacher will check for understanding by watching the behaviour and listening for verbal clues from the students. In the closure exercise students should indicate understanding of some of the following: what was life before the depression, when the Great Depression started, what destroyed the farmers crops, who were the drifters, and what ended the Great Depression. Students will write a post test.

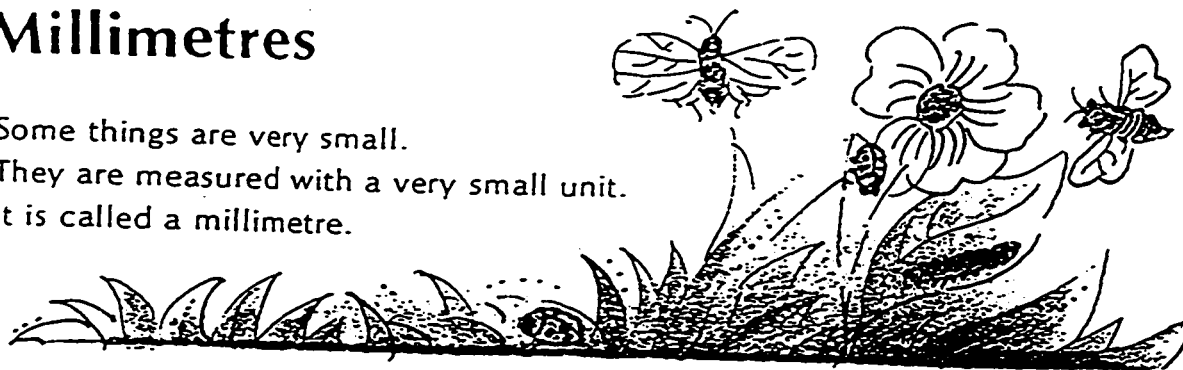
Art of Teaching - This is a large lesson make sure you have time for the wrap up. Using role can be tricky. Make sure you take on the persona.

APPENDIX C

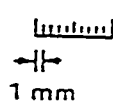
WORK SHEET SAMPLES

Millimetres

Some things are very small.
They are measured with a very small unit.
It is called a millimetre.



A centimetre is divided into 10 units.
Each unit is called a millimetre (mm).
A millimetre is about as wide as the wire of a paper clip.

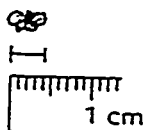


That's
very small.

EXERCISES

Use a ruler to measure each insect.

1. sandfly



2. mosquito



3. bumble bee

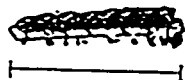


4. ant



Measure in millimetres.

5.



6.



7.



8.



9.



10.



11.



12.



Measuring Cones

Trees that produce cones are called conifers.

There are many types of Canadian conifers.

Each type can be identified by its cone.

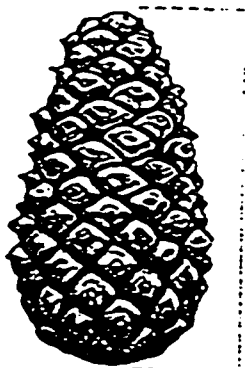


Record your measurements in a table like this: ↓

Cone	Length
A	5 cm
B	5 cm
C	5 cm
D	5 cm
E	5 cm
F	5 cm



Western White Pine



b. Pitch Pine



c. Scotch Pine



d. Red Pine



e. White Spruce



f. Balsam

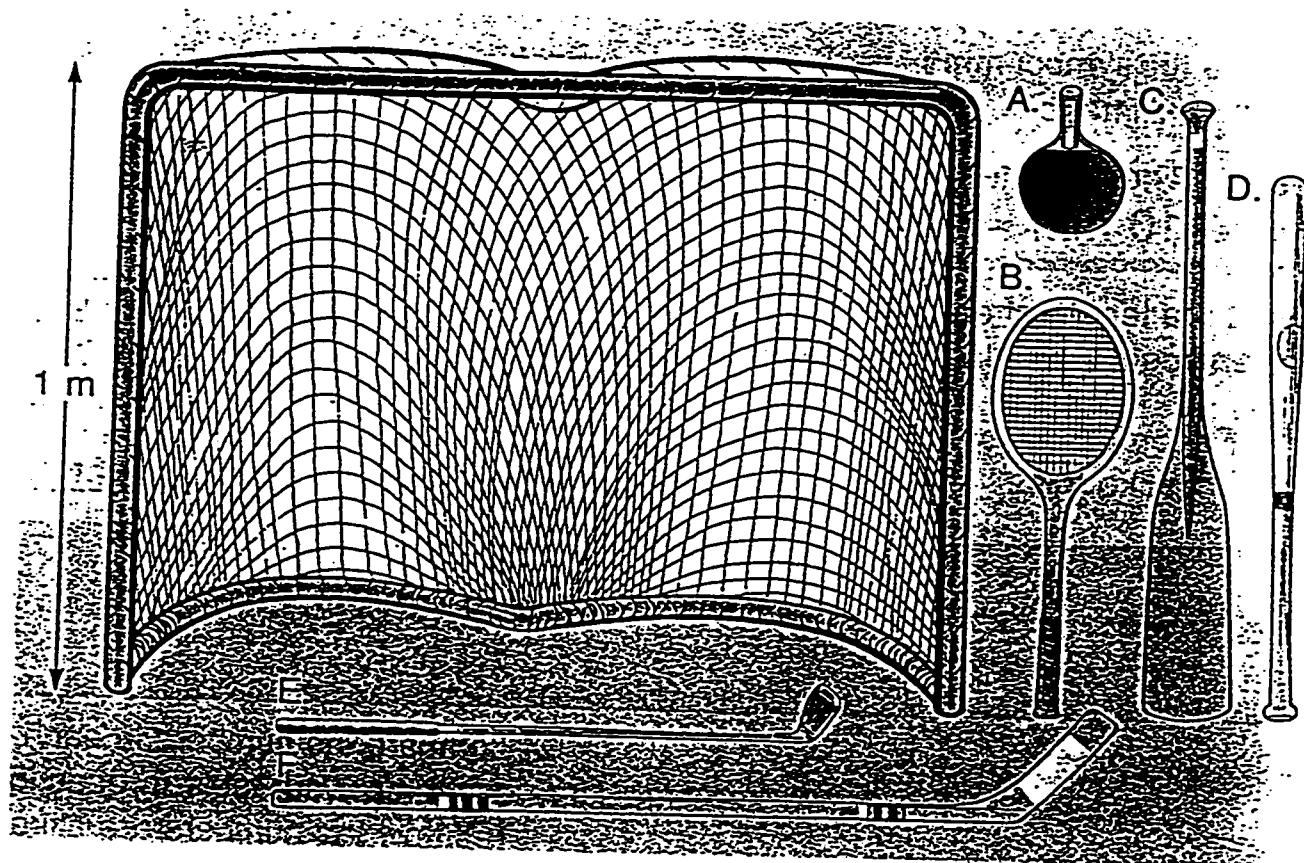
Measuring in Metres

A length of 100 cm is called one metre.

A hockey net is about 1 m high.

We use the
symbol m
for metre

1. Tell whether the length of each object is less than 1 m, about 1 m, or greater than 1 m.

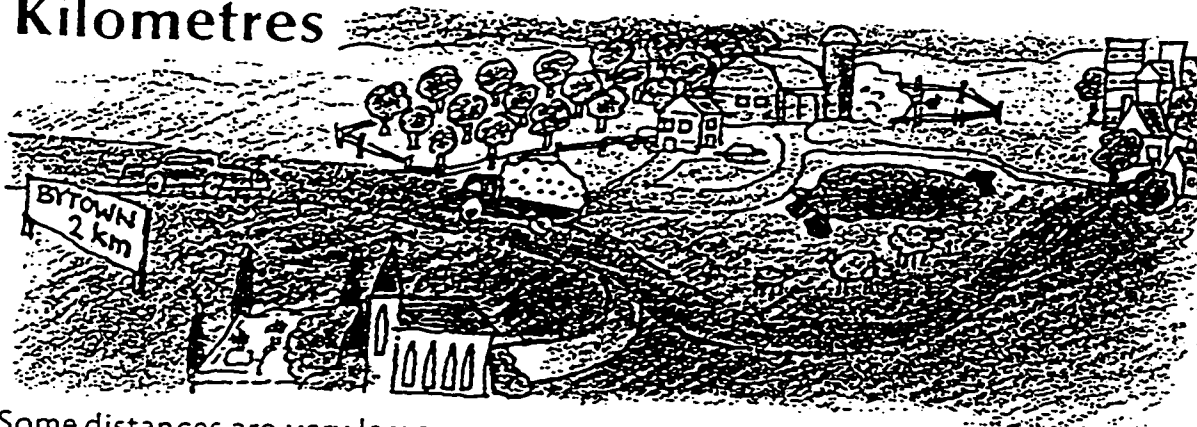


Copy and complete.

Use a tape measure or a metre stick.

2. The teacher's desk is about m long.
4. The classroom door is about m high.

Kilometres



- Some distances are very large.
They are measured with a unit much larger than a metre.
This unit is called a kilometre (km).

$$1 \text{ km} = 1000 \text{ m}$$

You can hike 1 km in about ten minutes.

EXERCISES

Discuss with your classmates. Then write an answer.

- What two buildings in your area are about 1 km apart?
- What place would be about 2 km from your school?
- How far away is the next town or city?

What is your answer?

- Sam walks to school in 30 min. About how far does he live from the school?
- How far could you hike in one hour?

Use the odometer readings to find the distance travelled on each trip.

6.

Hamilton			
6	8	4	2
Niagara Falls			
6	9	1	9

7.

Regina			
3	4	1	7
Saskatoon			
3	6	7	1

8.

Edmonton			
4	8	3	7
St. John			
9	2	5	0

APPENDIX D

SAMPLES OF PRE TESTS AND POST TESTS

Measurement Test A Name _____ date _____

Complete the following sentences by writing mm, cm, m, or km in the blanks.

E.g.. The height of a full grown giraffe is about 4 _m_

(1) The horse ran 1 _____ in about one minute.

(2) The swimming pool is 3 _____ deep.

(3) The tulip is 40 _____ high.

(4) Calgary is about 200 _____ from Lethbridge.

(5) The pin is 25 _____ long.

(6) The distance around the world is about 40,000 _____.

Complete the following equations by placing mm, cm, m, or km in the blanks.

(7) 1 _____ = 10 mm

(8) 1 _____ = 100 cm

(9) 9 _____ = 9000 m

(10) 4 ____ = 40 mm

(11) 1 ____ = 1000 m

(12) 8 ____ = 800 cm

Multiple Choice - Choose the best answer.

(13) A saskatoon berry is about ____ cm wide.

- (A) 1
- (B) 10
- (C) 100

(14) A car is about ____ m long.

- (A) 1
- (B) 5
- (C) 30

(15) The length of a mosquito is about ____ mm.

- (A) 1
- (B) 10
- (C) 100

Measurement Test B

Name _____ date _____

Complete the following equations by placing mm, cm, m, or km in the blanks.

(1) 1 _____ = 1000 m

(2) 1 _____ = 10 mm

(3) 8 _____ = 8000 m

(4) 5 _____ = 50 mm

(5) 3 _____ = 300 cm

(6) 1 _____ = 100 cm

Complete the following sentences by writing mm, cm, m, or km in the blanks.

E.g.. The height of a full grown giraffe is about 4 _m_

(7) Taber is about 50 _____ from Lethbridge.

(8) The horse ran 1 _____ in about one minute.

(9) The basketball player is about 2 _____ tall.

(10) The tulip is 40 ____ high.

(11) The pin is 25 ____ long.

(12) The distance around the world is about 40,000 ____.

Multiple Choice - Choose the best answer.

(13) A bus is about ____ m long.

(A) 1

(B) 13

(C) 50

(14) The length of a mosquito is about ____ mm.

(A) 1

(B) 10

(15) A blueberry is about ____ cm wide.

(A) 1

(B) 10

(C) 100

TEST A : The Great Depression Name _____ Date _____

(1) In the 1920s and 1930s people could see live theatre. Name two other forms of entertainment people could enjoy in the 1920s and 1930s.

(2) What event on the stock market began the Great Depression?

When did this happen? _____

(3) A "dust storm" was one kind of "weather problem" that destroyed farmers crops during the 1930s. Name 2 other kinds of "weather problems" that destroyed the farmer's crops during the 1930s.

(4) Name 2 kinds of "insect problems" that destroyed the farmer's crops during the 1930s.

(5) People who left their homes to find work were sometimes called "hobos." What

was another name they were called? _____.

What was the main kind of transportation these "hobos" used to get from city to city?

(6) How much did food at the "soup kitchens" cost? _____

Who ate at the "soup kitchens?" _____

(7) What ended the Great Depression? _____

When did this happen? _____

(8) Work camps were set up by the government. How much were the men paid for a days work?

- a) 200 dollars a day plus their food and shelter.
- b) 20 dollars a day plus their food and shelter.
- c) 2 dollars a day plus their food and shelter.
- d) 20 cents a day plus their food and shelter.

TEST B : The Great Depression Name _____ Date _____

(1) Hail was one kind of "weather problem" that destroyed farmers crops during the 1930s. Name 2 other kinds of "weather problems" that destroyed the farmer's crops during the 1930s.

(2) Name 2 kinds of "insect problems" that destroyed the farmer's crops during the 1930s.

(3) In the 1920s and 1930s people could play piano. Name two other forms of entertainment people could enjoy in the 1920s and 1930s.

(4) How much did food at the "soup kitchens" cost? _____

Who ate at the "soup kitchens?" _____

(5) People who left their homes to find work were sometimes called "hobos." What

was another name they were called? _____.

What was the main kind of transportation these "hobos" used to get from city to city?

(6) What event on the stock market began the Great Depression?

When did this happen? _____

(7) Work camps were set up by the government. How much were the men paid for a days work?

- a) 2 dollars a day plus their food and shelter.
- b) 200 dollars a day plus their food and shelter.
- c) 20 dollars a day plus their food and shelter.
- d) 20 cents a day plus their food and shelter.

(8) What ended the Great Depression? _____

When did this happen? _____

APPENDIX E

SAMPLE SATISFACTION SURVEY

Name _____

(1) How much did you **like** the math lesson on measurement (mm, cm, m)?

A little bit

some

a lot

(2) How much did you **like** the social studies lesson on the Great Depression?

A little bit

some

a lot

(3) How much do you think you **learned** about measurement (mm, cm, m)?

A little bit

some

a lot

(4) How much do you think you **learned** about the Great Depression?

A little bit

some

a lot

(5) Would you like to **learn more** about measurement (mm, cm, m)?

No

unsure

yes

(6) Would you like to **learn more** about the Great Depression?

No

unsure

yes

APPENDIX F**RAW SCORES**

Affective attunement raw scores.

Academic achievement raw scores.

Student satisfaction raw scores

Affective attunement raw scores.

Column 1 represents the student number. Columns 2 and 3 represent the raw affective attunement scores of the students with their match peer, columns 4 and 5 represent the affective attunement scores of the students with all other students in the class excluding the matched peer, columns 6 and 7 represent the affective attunement scores of the students with the teacher, and columns 8 and 9 represent the total affective attunement scores of the students (the sum of the affective attunements with the match, others, and the teacher). Columns 2, 4, 6, and 8 represent scores from the Drama condition. Columns 3, 5, 7, and 9 represent scores from the Non-drama condition.

1	2 drama attune- ment with match	3 non- drama attune- ment with match	4 drama attune- ment with others	5 non- drama attune- ment with others	6 drama attune- ment with teacher	7 non- drama attune- ment with teacher	8 drama attune- ment total	9 non- drama attune- ment total
1	8	7	21	5	2	7	31	12
2	9	0	78	26	4	2	93	28
3	21	1	104	10	5	1	130	12
4	20	0	89	21	6	0	115	21
5	99	11	36	31	0	0	135	42
6	92	6	33	19	2	0	127	25
7	26	7	26	9	0	1	52	16
8	26	7	12	6	0	0	38	13
9	12	0	45	10	1	0	58	10
10	10	0	62	30	0	5	72	35
11	9	0	56	9	2	0	67	9
12	8	0	51	6	2	0	61	6
13	2	0	101	45	1	2	104	47
14	2	0	113	10	0	1	115	11
15	2	0	52	50	2	1	76	51
16	2	0	107	10	0	0	109	10
17	31	1	25	0	3	2	59	3
18	30	1	24	7	1	1	55	9
19	26	0	42	12	2	0	70	12
20	27	0	53	2	3	0	83	2
21	0	0	77	5	2	0	79	5
22	1	0	31	0	2	0	34	0

1	2 drama attune- ment with match	3 non- drama attune- ment with match	4 drama attune- ment with others	5 non- drama attune- ment with others	6 drama attune- ment with teacher	7 non- drama attune- ment with teacher	8 drama attune- ment total	9 non- drama attune- ment total
26	22	0	30	20	0	0	52	20
27	56	0	28	19	1	0	85	19
28	58	0	44	15	0	0	102	15
29	15	14	23	8	0	0	38	22
30	14	15	37	24	0	2	51	41
31	6	0	58	13	0	0	64	13
32	8	0	64	10	2	1	74	11
33	1	0	14	7	0	0	15	7
34	1	0	39	15	2	1	42	16
35	33	16	6	2	1	0	40	18
36	32	15	17	5	2	0	51	20
37	1	0	64	13	1	0	66	13
38	0	0	54	21	0	0	54	21
39	27	13	24	5	0	0	51	18
40	22	11	31	2	1	0	54	13
41	0	0	39	10	1	0	40	10
42	0	0	34	25	1	0	35	25
43	16	0	16	4	1	0	33	4
44	16	0	9	12	0	0	25	12
45	15	10	32	12	4	0	51	22
46	15	6	31	7	1	0	42	13
47	27	8	23	15	1	0	51	23
48	36	4	17	23	2	0	55	27

Academic achievement raw scores.

Column 1 represents the student number. Columns 2 and 5 represent the raw pretest scores of the participants, columns 3 and 6 represent the post test scores, and columns 4 and 7 represent the gain score. A negative score indicates that the student scored lower on the post test than on the pretest.

1	2 Drama pretest	3 Drama post test	4 Drama gain score	5 Non-drama pretest	6 Non-drama post test	7 Non-drama gain score
1	3	1	- 2	4	8	4
2	4	9	5	13	14	1
3	4	4	0	14	9	- 5
4	5	7	2	14	15	1
5	12	13	1	5	8	3
6	8	10	2	14	15	1
7	6	6	0	5	4	- 1
8	12	10	- 2	6	7	1
9	12	10	- 2	5	5	0
10	13	13	0	8	7	- 1
11	7	3	- 4	5	4	- 1
12	14	14	0	8	5	- 3
13	4	6	2	6	6	0
14	10	11	1	6	7	- 1
15	4	5	1	6	6	0
16	9	12	3	8	6	- 2
17	8	13	5	1	4	3
18	13	15	2	2	7	5
19	7	8	1	3	3	0
20	14	15	1	2	5	3
21	1	5	4	1	0	- 1
22	9	11	2	2	4	2
23	0	8	8	3	5	2
24	12	13	1	4	8	4
25	7	11	4	4	7	3
26	7	12	5	6	9	3
27	7	6	- 1	2	2	0
28	7	15	8	4	6	2
29	2	5	3	3	5	2
30	10	11	1	3	4	1
31	5	8	3	1	3	2
32	4	7	3	10	12	2
33	0	2	2	3	5	2
34	6	8	2	13	13	0

1	2	3	4	5	6	7
	Drama	Drama	Drama	Non-drama	Non-drama	Non-drama
	pretest	post test	gain score	pretest	post test	gain score
36	7	10	3	13	12	- 1
37	1	5	4	9	3	- 6
38	9	8	- 1	13	8	- 5
39	4	4	0	11	14	3
40	6	10	4	14	14	0
41	8	6	- 2	11	11	0
42	5	8	3	12	10	- 2
43	6	12	6	9	9	0
44	5	7	2	9	10	1
45	2	7	5	4	6	2
46	8	8	0	10	11	1
47	3	6	3	5	7	2
48	2	10	8	14	13	- 1

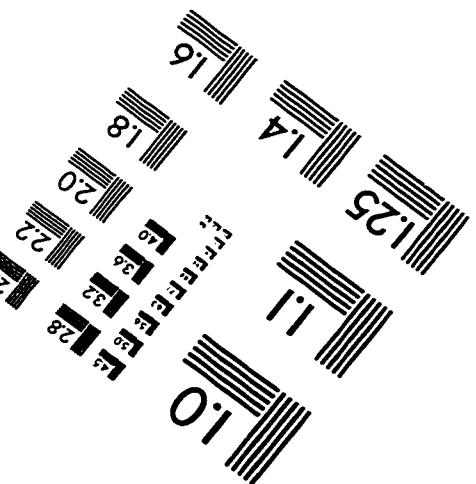
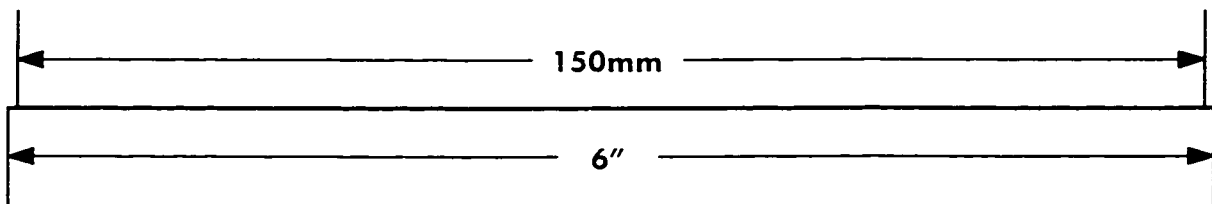
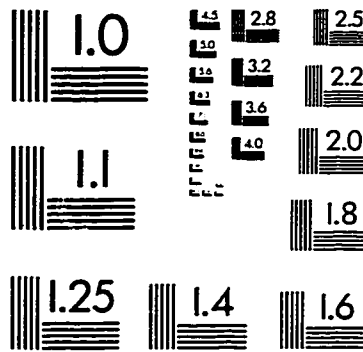
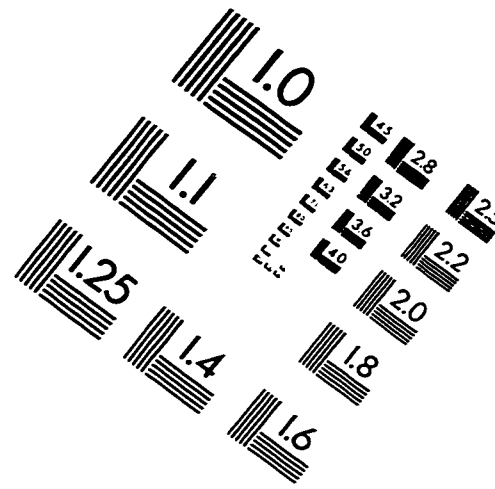
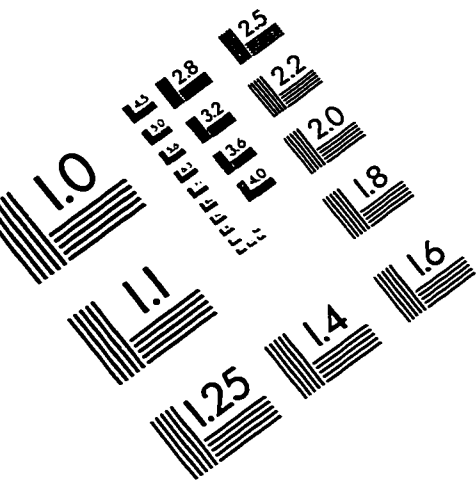
Student satisfaction raw scores.

Column 1 represents the student number. Columns 2 and 3 are the raw satisfaction scores representing how much the students liked the lessons, columns 4 and 5 are the raw satisfaction scores representing how much the students felt they learned in the lessons, columns 6 and 7 are the raw satisfaction scores representing how much the students wanted more of the lessons, and columns 8 and 9 are the totals representing the sum of the like, learn, and more columns. Columns 2, 4, 6, and 8 represent scores from the Drama condition. Columns 3, 5, 7, and 9 represent scores from the Non-drama condition. The 10th column represents the difference between the Drama Total score and the Non-drama total score; a negative score indicates that the Non-drama total score is greater than the Drama total score.

1	2 Drama like	3 Non- drama like	4 Drama learn	5 Non- drama learn	6 Drama more	7 Non- drama more	8 Drama Total	9 Non- drama Total	10 Differ- ence
1	5	5	5	5	5	5	15	15	0
2	5	5	5	5	5	5	15	15	0
3	5	3	5	1	5	1	15	5	10
4	5	3	5	1	5	5	15	9	6
5	5	5	5	5	5	5	15	15	0
6	5	3	3	5	3	5	11	13	- 2
7	5	5	5	5	1	1	11	11	0
8	5	5	5	5	5	5	15	15	0
9	5	5	5	5	5	5	15	15	0
10	5	3	3	3	3	3	11	9	2
11	5	3	5	3	5	5	15	11	4
12	5	1	3	3	1	1	9	5	4
13	3	3	5	3	5	3	13	9	4
14	5	3	3	1	3	1	11	5	6
15	3	3	3	3	5	1	11	7	4
16	5	3	1	3	5	1	11	7	4
17	5	5	5	5	5	5	15	15	0
18	1	5	3	5	1	5	5	15	- 10
19	3	5	1	5	5	5	9	15	- 6
20	3	1	5	1	5	1	13	3	10
21	3	1	5	3	5	1	13	5	8
22	5	5	5	3	5	3	15	11	4

1	2	3	4	5	6	7	8	9	10
	Drama	Non-	Drama	Non-	Drama	Non-	Drama	Non-	Differ-
	like	drama	learn	drama	more	drama	Total	drama	ence
	like	like		learn		more		Total	
25	3	5	5	5	5	5	13	15	- 2
26	5	1	5	1	5	1	15	3	12
27	5	3	5	3	5	3	15	9	6
28	5	2	5	3	4	1	14	6	8
29	3	3	5	1	3	1	11	5	6
30	3	1	1	3	1	1	5	5	0
31	5	5	5	5	3	5	13	15	- 2
32	5	5	5	5	5	5	15	15	0
33	5	5	5	5	1	1	11	11	0
34	3	3	3	5	1	5	7	13	- 5
35	1	3	1	5	1	5	3	13	- 10
36	5	1	5	3	5	3	15	7	8
37	3	5	1	5	3	3	7	13	- 6
38	5	5	5	5	5	3	15	13	2
39	1	1	3	1	1	1	5	3	2
40	1	5	3	1	5	3	9	9	0
41	5	1	5	1	3	3	13	5	8
42	3	1	3	1	4	1	10	3	7
43	5	5	5	5	5	5	15	15	0
44	3	4	5	5	5	1	13	10	3
45	5	1	5	1	5	3	15	5	10
46	5	5	5	5	3	3	13	13	0
47	5	5	5	3	5	5	15	13	2
48	5	3	5	3	3	5	13	11	2

IMAGE EVALUATION TEST TARGET (QA-3)



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