

Allergies
and
Learning

*The Life and Learning Experiences
of One Child with Multiple Allergies*

Mary-Ellen Smiley

1995





National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-23770-2

For Joanna, Bethany and Kyle.

Abstract

This narrative case study takes an ethnographic approach to delve into the learning experiences of one nine year old girl. Bethany Flynn, the focal point of the inquiry, attends grade four in a rural school in Nova Scotia. She has experienced significant allergy related health difficulties since birth. Although Bethany's parents and teachers perceive her to be bright and well spoken, she continues to experience learning difficulties within our educational system.

Data sources for this narrative case-study consisted of interviews, artifacts educational/medical records and reflective notes. Interviewing formed the foundation for transcripts which were coded, filed, analyzed then categorized into predetermined contexts. These contexts underpinned the framework for the formulation of the constructs which in turn provided the foundation of the thesis statement.

This ethnographic inquiry argues that learning for an allergic child is physiologically, sociologically and psychologically constructed, embedded and intertwined within environmental contexts. This web of interconnections shapes the way educators and parents view the learner as well as the way the learner views herself/himself.

While the narrow lens of educational and medical research has traditionally focused on the fragmentation of knowledge as a solution or "cure" to "fix" difficulties, this approach invites further inquiry into the connection of mind and body in order to better understand allergies as one of the physiological factors which influence a child's learning experiences. Medical research indicates allergies play a role in the educational difficulties of a significant number of children. This research also raises questions surrounding traditional approaches to "fixing" children who are experiencing difficulties within our educational system.

Although this narrative focuses on one nine year old girl, the story it tells holds significant educational implications for other children with allergies who may be experiencing similar difficulties. Stories such as this, are important in education where the mind body connection continues to be deleted from a holistic perspective and where teachers fail to recognize their own potential as educational researchers. These stories are equally crucial in medical research where allergies continue to be viewed as isolated and individual pathologies.

Outside the Club

I still had drawing,

Drawing, I felt
was the only
thing
I had
left.

I could draw the classroom,
People working...

But a lot of the time,
when I drew the classroom
With me in it
I would be...

...hesitating.

So I'd kind of be
scrambles
rather than
me.

The other people
would be working...

I used to want ...
to be a writer.

The above poem is direct text taken from transcripts of an interview with Bethany in January of 1995. I typed it in the form of a poem and gave it a title with her permission.

Contents

<i>Dedication</i>	<i>i</i>
<i>Abstract</i>	<i>ii</i>
Chapter One: Introduction	1
Chapter Two: Methodology	4
The Study	
The Participants	
Introduction to Family Members	
Data Sources	
Interviews	
Records and Artifacts	
Data Analysis	
Chapter Three: Literature Review	14
Allergy / Learning Connections	
Educational Research Rationale	
Chapter Four: All in the Family/ Family Members Discuss Health Concerns	23
Bethany	
Kyle	
Michelle	
Mark	
Chapter Five: Revisiting Health	
Embedded Within an Environmental Context	36
Report on Air and Substance Sampling from Bethany's School	
The Idiosyncrasies of Allergies: A Holistic Perspective	
Environmental Concerns	

The challenge is to broaden our perspective and look at children as whole human beings without separating mind and body. (Vass and Rasmussen p.247)

Chapter One

Introduction

This inquiry focuses on the role that allergies play in the educational experience of a child. Specifically, this study will use a narrative case study approach to gain insight into the difficulties one nine year old girl has encountered with learning, both at home and at school. Through a narrative description of Bethany's educational and medical experiences to date, the study will show the physiological factors which influence learning for a child diagnosed with allergies. In turn, the inquiry will illustrate how these physiological factors become entangled within educational, psychological, sociological and environmental contexts to influence Bethany's self concept as a learner.

At the time of this inquiry, Bethany Flynn was nine years old. The study took place between the months of November and March while Bethany was attending grade four at a rural school in Nova Scotia. Although Bethany's home is filled with rich educational experiences and her teachers describe her as bright, well spoken and hard working, Bethany continues to experience difficulties within our educational system. Allergy testing has

indicated that Bethany is allergic to 28/28 items she was tested for.

Data sources for this narrative case-study consisted of interviews, artifacts, educational/medical records and reflective comments. Interviews were conducted with members of Bethany's educational team, and included teachers both past and present. Members of her family were interviewed along with Bethany's private music teacher. Interviewing formed the foundation for transcripts which were coded, analyzed and categorized into predetermined categories. These categories provided the framework for the formulation of the constructs which in turn established the foundation of the thesis statement. Through the analysis process the interactions of the various contexts emerged. Complexities included such factors as: the physiological connections of Bethany's allergies to her learning, the interaction of Bethany's allergies to environmental factors, the modelling role of parents and teachers in Bethany's life, the role of self-fulfilling prophecy, and the role of teacher/ parent expectations to name just a few.

The story that this narrative case study provides does not prove that all of Bethany's learning difficulties can be directly attributed to specific allergies, however, such is not the intent of this ethnographic study. The intent lies more in the domain of painting the complexities and interconnections that an allergic child and her family had deal with in order to make "sense" of the child's learning/educational experiences, given the physiological complexities of her allergies. The web of entanglement that emerged involved the physiological aspects of allergies and learning which became entangled within sociological/personal, psychological/emotional and

environmental contexts. These forces shaped the way people “saw” Bethany as a learner as well as the way Bethany saw herself.

This study differs from other educational research because it invites further inquiry into the mind/body connection which has been traditionally absent from educational research. More specifically, in this case, it indicates the need of further research into the physiological connections linking allergies to learning. It also encourages educators to question their own assumptions about learning/teaching. The study welcomes teachers to wrestle with the vast number of ways our assumptions about learning/learners shape how our students see themselves. In addition it encourages further inquiry into more inclusive ways of knowing/learning, which will allow students to learn more about their strengths as learners rather than their weaknesses. From a medical perspective it invites a more holistic approach to research where allergies, for the most part, continue to be viewed as isolated and individual pathologies.

Chapter Two

Methodology

The Study

The interviewing took place between the months of November and March of 1994/95. The rural school Bethany attended while the study was in progress had a student population of 311 students. Teachers were also interviewed from Bethany's two previous schools which were located in an urban setting in Nova Scotia. Family members were interviewed in their home for the most part. Teachers were interviewed in the classroom. The interviews lasted for approximately 45 minutes. In some cases it was necessary to do further interviewing with certain participants , once the analysis process began in order to fill in some of the "gaps" that formed in the data.

The Participants

Introduction to Family Members

Focus of the inquiry:

Name:	Bethany Flynn
Date of Birth:	May 10th, 1985.
Level of Education:	Grade 4
Interests & Hobbies:	Skiing-Music-Canoeing-Baseball-Reading-Crafts-Drawing
Favorite Subjects at School:	Art & Writing
Daily Activities:	Music Lessons-Guides-French- Highland Dance-Reading-Helping Dad
Allergies &/or Sensitivities:	Foods: Potato, Rice, Milk, Beef, Tomato, Corn, Wheat, Peanuts, Citrus, Apple Air Borne: Dust*, Fur, Feathers, Pollen,Trees Chemicals & other: Glue, Markers, Perfume, Hair spray, Cleaners. Fungi*, mold*

*Most severe allergic reactions noted to these substances.

Relationship: Brother
Name: Kyle Flynn
Date of Birth: January 30th, 1981.
Level of Education: Presently attending grade 8
Interests & Hobbies: Archery
Scouts
Guitar
Dungeons & Dragons
Biking
Favorite Subjects: Social Studies/ English/ sometimes Science
Daily Activities: Scouts
Archery
Guitar
Computer
Talking to Friends/ Writing to friends on
computer
Allergies or Sensitivities: Foods:Oats,Citrus, Milk.
Air Borne: Dust, pollens
Chemicals & Other: Yeast, Fungi,
Perfume,Strong scents

Relationship: Mother
Name: Michelle Flynn

Date of Birth: June 30, 1954.

Occupation: Elementary Resource Teacher

Interests & Hobbies: Theatre
Reading
Walking
Dungeons and Dragons

Daily Activities: Work
Reading

Allergies or Sensitivities: Alcohol
Salt
Gas
Perfume
Paint
Hairspray
Cleaners
Chemicals-tested as a group so not
sure of individual except by observation

Relationship: Father
Name: Mark Flynn

Date of Birth: October 27, 1954.

Occupation: Teacher - English, Social Studies
Grades 7-8

Interests & Hobbies: Computer
Canoeing
Dungeons and Dragons
Skiing
Professional Committees
Occupational Health & Safety Committee
Environmental Committee

Daily Activities: Teaching
Food preparation
General household tasks
Shopping
Reading
Writing

Allergies or Sensitivities: 35 documented food allergies
3 airborne
sensitivities to items such as:
paint, photocopier fumes, floor polish,
glue, hair spray, nail polish, carpets,
cleaners, perfume/cologne

I chose Bethany as the focal point of this inquiry for the following reasons: First, Bethany and her family had an allergic history that warranted further interest. Secondly, Bethany was experiencing learning difficulties within our educational system. Thirdly, she came from an enriched literate background where one of the main family forces was to provide sound educational experiences for their children. Fourth, although Bethany's allergy history may not be typical it is not atypical either. I believe there are many other children similar to Bethany in our classrooms.

Data Sources

The inquiry comprised the following data sources:

1. Interviews
2. Artifacts and records consisting of : reports cards, work samples, psychological assessment, cumulative and medical records.

Interviews

Interviewing was conducted in a manner consistent with qualitative research. (Spradley, 1980). Interviews were conducted with key participants to establish past and present perceptions of Bethany as a learner. Each interview lasted for approximately forty-five minutes and focused on social/psychological, physiological/medical, educational/learning experiences and perceptions. The categories remained consistent across participants whenever possible. The following participants were

interviewed: Bethany, her mom and dad, her brother, her teachers for grades primary, two, three, and four as well as a resource teacher who saw Bethany on a casual basis in grade three. Bethany's private music teacher was also interviewed.

I used the social/emotional, physiological/ medical, educational/learning categories to form a guiding framework for authentic questions (Seidman, 1991) which arose from the context of the interview. During interviews with key participants I asked the following types of questions in each of the predetermined areas:

Physical/Medical

Bethany

Do you get sick very often Bethany?

Can you tell me some of the different ways you get sick?

How do you feel when you have a headache?

Do you ever notice where you are when you get headaches?

Teachers

Did Bethany ever tell you that she wasn't feeling well?

Did you ever notice how she acted when she had a headache?

What types of things would she tell you when she wasn't feeling well?

Parents

How was Bethany's health as an infant?

Tell me more about the types of medical problems she had as an infant.

Can you tell me about any medical difficulties which persisted throughout her preschool years?

Educational/Learning

Bethany

Do you like to read at school?

What do you like to read?

Parents

What types of things does Bethany like to do at home in her spare time?

Did Bethany like to be read to as a preschooler?

What types of things would you read to her?

What types of pencil and paper activities did she enjoy?

Teachers

What can you tell me about Bethany's organizational skills?

What do you perceive as Bethany's strengths as a student?

What types of activities did Bethany experience difficulty with?

Social/Emotional

Bethany

How did you feel when you were reading in class last year?

How do you feel when you don't finish your work at school?

How do you feel about yourself as a learner?

Parents

How do you think Bethany feels about herself as a reader/writer?

Are there any areas of learning that you think Bethany sees herself in a positive way?

Are there any learning experiences that you can think of which make Bethany feel frustrated?

Teachers

How do you think Bethany saw herself as a reader/writer?

Tell me five words that describe Bethany as a person.

Were there any areas in which she saw herself in a positive way?

The interviews were intended to be more probing than conversational questions and were intended to encourage the participants to explore underlying perceptions and assumptions about Bethany as a learner. As I continued to interview participants, I realized this inquiry encompassed interconnected domains of learning from many perspectives. I cross-checked the data to enhance the validity of my interpretations of the data.

Records and Artifacts

As part of the analysis process, records and artifacts were referred to in addition to the transcripts from the interviews. The following records and artifacts were collected as part of the data for this inquiry:

- 1) cumulative records and report cards (standardized test results and psychological assessment reports were available through cumulative records)
- 2) work samples from home and school.
- 3) Medical records.

Data Analysis

The transcripts were then cut, sorted and color-coded. This process enabled me to focus more clearly on some to the threads and patterns that were emerging from the data.

	Educational	Medical	Social	
Bethany(Self)				
Mom(Bethany)				
Dad(Bethany)				
Kyle(Bethany)				
Mom(Self)				
Dad(Self)				
Kyle(Self)				
Mom (Kyle)				
Dad(Kyle)				
Primary Teacher(Bethany)				
Grade One teacher not available				
Grade two teacher(Bethany)				
Grade three teacher(Bethany)				
Resource teacher				
Grade four teacher				
Music teacher				

Using this grid, I read and reread the transcripts, reflected, made notes and interpretative comments. Throughout the process, some pieces of data shifted from one section to another as I read, analysed and hypothesised. Reflective comments, report cards, writing samples and psychological testing were constantly referred to. From time to time I had further conversations and short interviews with the participants in order to help fill some of the cracks that I realized were forming as I put the pieces together.

The process for me was not a linear one, but rather somewhat transactional, whereby I could “jump into the data” for awhile then stand back and analyse, interpret and make reflective comments. This “in and out” process remained with me throughout the analysis and the writing.

Chapter Three

Literature Review

Allergy/Learning Connections

Accumulating evidence indicates that the occurrence of allergies and allergy related disorders in North America have increased substantially in the last couple of decades. Glines and McGovern (1983), state: "In a typical school district, 25 percent of the school population may have illnesses and serious physical and mental conditions that are allergy-based." (p. 60). Newacheck and Taylor (1992) suggest that although chronic childhood conditions such as polio and rheumatic fever, have declined markedly during the second half of this century, there has been a marked increase in chronic childhood conditions including respiratory allergies and frequent or repeated ear infections . Other relatively common conditions include asthma, eczema and skin allergies, frequent or severe headaches, and speech defects.

Allergies have been an acknowledged medical phenomenon for decades. Unfortunately, allergic reactions are not always diagnosed as such. In schools students who seem hyperactive, fatigued, irritable, depressed, lazy or slow are often regarded as having emotional, cognitive or psychological problems. Delving deeper into their symptoms, we may find that many of these

individuals are suffering from hidden food, chemical, and inhalant allergies (Glines et al. 1983).

Allergies are definite immunological reactions. An allergic reaction is an inflammatory response with observable skin, breathing and other changes, brought on by repeated exposure to specific substances or allergens that sensitize the body's immune system. The most common and annoying allergens include pollens, dust mites and molds, more dangerous allergens, some of which can lead to a life-threatening or anaphylactic reaction, include venoms, e.g. from bee stings) and specific foods such as peanuts, nuts, lobster and crab.

Vass and Rasmussen (1984) suggest that food allergies have been associated with differences in behavior; more specifically, many researchers and practitioners are addressing the role allergies play in aggression, schizophrenia, psychosis, hyperactivity and other childhood abnormalities. In fact, reports in literature during the past 60 years indicate that allergy may be an important factor in many behavioral and neurological syndrome.

Food allergies can cause adverse reactions in sensitive persons. Symptoms include hyperkinesia (excessive activity), irritability and lack of attention. Allergies are caused by the tendency of a person's body to produce antibodies against specific proteins found in foods. The worst offenders frequently include milk, wheat, peanuts and eggs. Pearson and Long (1982) state: "Certain foods can produce biochemical changes that irritate body tissues and cause the brain to swell.... Common symptoms of allergies include lack of restraint, short attention span, restlessness, clumsiness, tremors, insomnia, achy joints, digestive problems, enuresis, earaches,

excessive perspiration, and low grade fevers” (p. 391). Immediate, dramatic changes can result from swelling in areas of the brain that contain neural connectors controlling aggression. Today this behavioural disorder is often defined as Attention Deficit Disorder (Moyer, 1975).

An increasing amount of research makes connections between allergies and ADD children. Friedman and Doyle (1987) state, “Medical reports and clinical evidence indicate there is a higher incidence of a number of different allergies in children with ADD. There does not seem, to be a connection between any particular kind of allergy and ADD, but more children with ADD have allergies” (p. 33). Much of the research which connects allergies to learning can be found under the category of “Learning Disabilities” and ADD can often be located among these. The following is a list of physical, social and behavioral characteristics which may be possible signs of a child with allergies:

Physical

- 1) Pale tired and /or exhibits dark eye circles.
- 2) Red ear lobes, red cheeks, constant sniffing and rubbing of the nose in an upward direction.
- 3) Frequent reoccurring infections.
- 4) Has siblings or parents who have allergies or asthma.
- 5) Itchy watery red eyes and or itchy dry irritated skin.
- 6) May have trouble developing sound sleeping patterns.
- 7) Frequent complaints of leg cramps, headaches, abdominal pains, abdominal gas, rectal gas, diarrhea or constipation.
- 8) frequent coughing, and sometimes a “clucking sound” when frequently

clearing throat.

9) May be hyperactive or lethargic.

Social/ Behavioral/ Educational

1) May act out as class clown.

2) Inconsistency in achievement profile.(student often performs sporadically)

3) Displays extreme fluctuation in retention and learning rate.

4) Often appears not to be working up to potential in class.

5) Daydreams or appears to be off in space.

6) May have behavior problems (i.e. hyperactivity, difficulty conforming to rules, unable to put on "braking mechanisms" or exhibit self-control).

7) Has short attention span.

8) Has difficulty making and sustaining lasting social relationships with peers.

9) Displays disorganized work habits.

Glines et al. (1983) conclude that although allergies have been an acknowledged medical phenomenon for decades, allergic reactions are not always diagnosed as such. In schools, teachers and students who may be hyperactive, fatigued, irritable, depressed, lazy or slow are often regarded as having emotional, learning or discipline problems. Delving deeper into symptoms such as these, we can find that these individuals are suffering from hidden food, inhalant and chemical allergies. Baker and Baker (1980) propose, that children with chronic allergic problems very often show signs of learning disabilities. Auditory and vocal systems in allergic children are

often affected. A correlation between allergies, hearing loss, vocal quality and articulation disorders in young children was also noted . Baker and Baker (1980) concluded that: "...allergic rhinitis was associated with both hearing loss and articulation error". and that vocal quality disorders "...were often found in association with bronchial asthma." Allergic disorders as well as concomitant hearing deficits must be considered when evaluating a child's development in language skills (p. 584).

The connection between learning disabled children and allergies is becoming more widely accepted. Remedial facilities, such as the Toronto Learning Centre, rely on dossiers of assessments from school boards, independent psychologists, hospitals, neurologists, paediatricians, psychiatrists, social workers and many other members of the helping professions. In-depth interviewing coupled with parent histories often indicate a need for allergy testing. As Director of the Toronto Learning Centre, Kravitz (1982) states:

Should a significant allergy be detected, and with learning disabled children, one frequently is, an appropriate plan and treatment will be undertaken..... The allergist in many cases, will do a traditional allergic test for both inhalant and food sensitivities. Special emphasis is normally placed upon assessment for allergies to sugar, milk and white flour. In some cases, allergists will also arrange tolerance tests to rule out hypoglycemia" (p. 29).

As knowledge of children's medical conditions advance, dietary approaches will probably become an increasing part of orthodox medical treatment for some and may take a decreasing role for others (Taylor,1987) but for now food allergies remain a "sensitive" issue with many powerful

political implications. The connections between ,learning, behavior, food and allergies continue to be very controversial.

Currently, studies of allergies from a traditional medical perspective receive the most political and monetary support for research. Powerful food and milk industries have vested interests in ensuring that the public does not become aware of the high incidence of allergies associated with, for example, milk products, or refined sugar. Research often determines the general public's perception of reality, whether it's the benefits of beef and butter, the risks associated with aspartame or the allergy - potential of processed foods.

In a recent article in Health News (April,1993) it was stated, Allergies tend to run in families. a child with one allergic parent has a twenty-five per cent chance of developing allergies. If both parents are allergy-prone there's a two-in-three chance. Despite the potential of seriousness of allergic reactions, surveys show that over 50 per cent of those with allergies don't consult a physician about their allergic difficulties.

Chemical sensitivities and MCS (Multiple Chemical Sensitivity) are of equal concern, Ashford and Miller (1989) state, "Chemical exposures are endemic to our modern industrial society. Increased production/use of organic chemicals as well as advances in consumer products and building construction have resulted in changes in the nature and extent of human exposure to chemicals. Most patients who believe they are chemically sensitive initially seek medical care and consideration from traditional medical practitioners, many of whom are ill-equipped or reluctant to provide the painstaking and time-consuming attention that is required for their condition"(p.i).

Educational Research Rationale

The narrow lens of traditional inquiry which has come into question with medical research has also become the focus of many questions regarding conventional educational research, especially research, from a positivist perspective.

Traditionally, educational research was mostly influenced by models used in clinical psychology. It generally followed a progression from (1) theory (2) an abstract representation or model of the theory, to (3) the setting a hypothesis, which was then tested. The research method was the empirical testing of the hypothesis. Data was gathered according to strict criteria and then analyzed. The analysis of the data revealed whether the hypothesis was to be confirmed or rejected. Educational implications for theory and practice were then written.

Educational practice which continues to be philosophically driven by this research tends to be reductionistic. McNeil (1986) states, "Topics that cannot be omitted, mystified, or fragmented are treated to a strategy of *defensive simplification*. (p.128). Lester and Onore (1990) argue that how a there is a direct correlation between how teachers view knowledge and how they practice teaching in their classrooms. If teachers hold an objectivist theory about knowledge then they believe that knowledge is an entity capable of being transmitted from one who knows to one who doesn't know then the teaching acts have primary importance in the teaching/learning act. In autocratic classrooms teachers and their knowledge become the center of the

classroom. Teachers are the only experts because they determine what they know and what (and how) the students must learn. If on the other hand, they hold a constructivist belief about knowledge, that knowledge is the active creation of meaning by each learner. then the sense making activities of learners have primary importance in the teaching /learning act. In democratic classrooms, it's essential for learners' intentions and purposes to be voiced. The democratic classroom classroom acknowledges that each human being brings a whole range of experiences, beliefs, feelings, knowledge and assumptions to bear in every learning situation. Teaching is a response to the learning situation.

How we view knowledge is also directly correlated to the methodology we choose to do our research. In line with "holistic" practices, more descriptive theory building approaches are gaining popularity in recent educational research circles. Such research uses empirical methods of observation and recording to develop theory in context. Ethnographic case study research is qualitative as opposed to quantitative and it uses an inductive rather than a deductive application of a theory to a setting. Similar to, and often consistent with, action research , practitioner research or a narrative inquiry approach, this method invites the researcher to go into the "field" as participant rather than demanding he/she stand on the outside of the process. This type of "bottom -up" research serves to demystify the research process and helps to make research skills accessible to those who need them in the context of their lives. Demystifying the research process is the first step in decoding and demythologizing the way knowledge is created. It also enables us to develop a deeper understanding of actual social relations

more broadly labelled ideology or culture (Smith,1984).

For example, allergies often run in families. Siblings may have similar or varied reactions, though sometimes less evident. Looking at a child with allergies using a narrow lens would ignore the larger context of allergies within a family. The very nature of allergies is complex, grey, and often idiosyncratic.

Consistent with a holistic medical approach, educational research of allergies demands a holistic perspective. Narrative case studies enable the researcher to become engaged in the process, collect data in the form of stories and recollections of the participants and then focus on coding and analysis to determine whether any patterns or theories emerge. The researcher gathers description from a number of key sources and constructs hypotheses as the process evolves. She/He can then relate the descriptive data to existing literature or construct a new theory.

“Story telling” or narrative case studies unravel more complete pictures which: “...stir people’s minds, hearts and souls and through doing this, allow them to gain new insights into themselves, their problems and their human condition. The challenge is not to develop a human science that can fully serve this aim. The question is not ‘Is story telling science?’ but can science learn to tell good stories?” (Reason, 1981, p.50).

Chapter Four

All in the Family Family Members Discuss Health Concerns

Bethany

Bethany was born on May 10th, 1985. Her parents, Mark and Michelle both agreed that Bethany was a wonderful baby. Bethany's dad Mark recalls, "She was happy, loving and very pleasant, she did a lot of smiling. She was very calm and a great sleeper. Our first child Kyle, never seemed to sleep. Bedtime was very stressful for us with him... . Putting Bethany to bed and dealing with Bethany was the complete opposite. Sing her a song, tuck her in, read her a book, turn off the light and close the door. We wouldn't hear from her until the next day. However, one thing I do remember, she was a projectile vomiter. We had to walk around with a towel over one shoulder the whole time. This kid could hit her grandmother at ten paces with it."

As time passed and Bethany transformed into a toddler, the projectile vomiting disappeared but the Flynn's began to have some other concerns about Bethany. She was a picky eater and seemed to really like or dislike a particular food. She remained very happy but wasn't as active as many other toddlers. She had a certain trepidation about climbing or walking in

unfamiliar settings. She began to experience some bowel problems. Bethany would become very constipated and have to go to the hospital about every three months for an enema. Between these sessions she would often be prone to diarrhea.

It was during this period that Bethany developed mild to moderate asthma. It was not severe but it was chronic. She was on a mask every day, four times a day. Bethany recalls, "When I was younger, around 4, I didn't sleep very much because of my asthma. About 3 or 4 times a week I would get up in the middle of the night and have a really bad asthma attack. Sometimes I would have to go to the hospital." Bethany began to have a significant number of recurring infections, mostly upper respiratory (throat, ear and sinus). Mark made the comment that "sometimes we had more "Amoxil" in the fridge than we did milk." In addition to the constant antibiotics the Flynnns were also making frequent trips to the drug store for decongestants and antihistamines.

Michelle began to feel the frustration of overwhelming differences of perception from within the medical profession. Bethany continued to experience bowel troubles. "She had a lot of gastrointestinal problems and bloating... We were running around going from one specialist to another. Like, we'd go to the allergist and have scratch tests... We'd go to the E.N.T. and yes the sinus problems were there. When she started school she had to have a hearing test in order to get in so we took her for the hearing test. She failed the hearing test. So, you know, they said she's got a cold, whatever, come back when she's better. We go back and she fails again. The girl says, 'this is really strange' so we had to take her to the E.N.T. right in the hospital

for more extensive testing- she fails that too! Everything I took her for there was a problem. For me, I was getting really frustrated because it's like anything that you would do as a conscientious parent to follow-up on something was like... Well, we'll do this and check on it and sure enough there would be a problem but no one seemed to have any answers... . I felt like here was this kid, everything was breaking down and every place I took her nobody could tell me why. Nobody seemed to have any reason or any answers. I just felt totally frustrated."

When Bethany started school she continued to have bouts of asthma and would sometimes have to come home to have a mask. Bethany recalls her early days at school, "It was pretty hard when I first started school because we had gym and I couldn't run or else I would have an asthma attack. I would either have to call home or just try to go on at school. Most of the time I would probably go home. I couldn't do a lot of the activities with my friends. They liked to run and they would run a lot but I couldn't. Well I could but if I did I would need my puffer or a mask."

She had frequent ear, nose and throat infections. Her bowels gave her problems. She was experiencing reactions every time she ate certain foods. Any time she ate tomatoes, for example, "her mouth would become red, not just her lips but the skin around it." She was also experiencing more skin irritations. Sometimes she would get dry skin patches with a red rash around it. Other times she would have itchy patches often on her thighs. The patches would appear as six inch red, round, raised areas that would look like giant hives. She became plagued with frequent headaches and nausea. Bethany was often quite lethargic, groggy and suffering from exhaustion

when she came home from school. These difficulties persisted throughout grades primary to three.

When I asked Bethany what she liked to do after school last year in grade three she responded, "Probably go to bed because I didn't feel well. I like to draw. I still had drawing. Drawing, I felt was the only thing I could do."

The following chart is a one year sampling of Bethany's visits her family doctor. Her doctor at this time practised traditional medicine. The information serves to illustrate how Bethany's physical symptoms became more prevalent and intrusive.

Date	Diagnosis	Treatment
January 25th, 1989.	Allergy "specialist"	No allergies noted
March 23rd, 1989.	URI gastrointestinal dizziness	
April 19th, 1989.	URI Ear Infection	Pediazole Somophyllin
April 26th, 1989.	URI Tonsils-Ears	
April 26th. 1989.	Food Allergy	RAST*
May 3rd, 1989.	URI	
May 3rd, 1989	URI	RAST
May 23rd, 1989.	URI	
June 22, 1989.	I.C. Syndrome* URI	Robitussin Pondocillin Alupent
June 22, 1989.	URI -cough, fever, stomach, face swollen around eyes	

June 22-25th,1989.	Admitted to emergency IWK asthma	
June 28th. 1989.	URI Post Nasal Drainage	
August 1st, 1989.	Asthma	Somophyllin
August 11th, 1989.		Ventolin Rynacrome Hismanal
August 11th, 1989.	Asthma Nasal Blockage	New RAST Choledyl
August 31st,1989.		Nizoral
August 31st, 1989.	Asthma Seborrheic Dermatitis	
October 30th, 1989.	Asthma, nasal congestion	
November 20th, 1989.	URI	
Dec. 15th, 1989.	Asthma	
December 28th, 1989.	Asthma	
January 5th, 1990	URI (ears)	
January 31st, 1990.	Low grade fever, URI	

*RAST(radioallergosorbent)-a test used to measure specific IgE antibodies in serum. RAST is used as an alternative to skin tests to determine sensitivity to suspected allergens.

*IC-Irritable colon.

Kyle

Kyle is Bethany's fourteen year old brother. When I spoke to his parents about what type of baby Kyle was, they both laughed and agreed that he was "the baby from hell." They both recall nine months of "utter misery." Kyle cried almost nonstop day after day. "You'd try and sooth him and rock him to sleep - it would take hours for him to fall asleep. Then if you stood up and your knees cracked, he was awake again." They believe that Kyle was the classic colicky baby.

When I spoke to the parents about how long this crying lasted, Michelle remembers one particular incident, a day when Kyle was crying violently and all of a sudden he stopped dead. She says, "I remember thinking. oh my dear did he die in the middle of all this? He was just so exhausted that he had fallen asleep in the middle of a cry."

These problems persisted until Michelle took Kyle to the doctor's office and stressed that her son was experiencing some significant problems. Michelle realized that Mark was allergic to milk and possibly Kyle could have had the same problem, She recalls it took two visits to convince the doctor, but she did end up changing his formula. "When I did, he became a changed child. Really, that was at nine months and suddenly he was calm and pleasant."

Kyle developed a healthy appetite and his dad comments that he has been eating very well ever since. However, Kyle has continued to experience difficulties with his bowels. He had a lot of diarrhea as a toddler. Kyle continued to experience difficulties with his bowels during his preschool and early elementary years. He seemed to alternate between diarrhea and

constipation. Several times his parents ended up taking him to the hospital because he was so impacted. They took him to doctors and the final diagnosis seemed to be that he was waiting too long to use the washroom and all of a sudden some leakage would happen around this compacted ball of stool and that was why he would feel the sudden rush.

Kyle is a very articulate, well mannered young man . When I asked him if he still has any problems in this area he responded, "I used to also get a lot of pain. I think they were gas pains. I do get gas when I drink milk, for example, or when I have milk products; also, when I have oats. The oats have gotten better but the milk still persists. Also, I used to have these pains a lot and they used to be quite serious. The only cure I found for them was putting my chest on my knees and hunching over with a heating pad down on my stomach." Kyle went on to add that he doesn't have many problems in this area anymore as long as he sticks to his diet.

Kyle has always had trouble sleeping. He has never really been able to establish sound sleeping patterns. He had trouble sleeping as an infant up until about nine months of age. At that time he had a period where he was a little better. His mom reflects, "again, by the age of 2, I'd say, he started his sleeping problems again. Just not wanting to go to bed. We tried any number of things to break him of the habit and just couldn't seem to." The sleeping continued to be a problem and his dad recalls at around the ages of 8-11 or 12, Kyle consistently had trouble with nightmares or night terrors. "I can remember sitting at the edge of his bed thinking that he was calm, giving him a drink of water, and saying, Okay it's time to lie back down, when all of a sudden he would grab the covers and pull them up to his neck and be staring

wide eyed over to the corner, like a cat does, that's what he was doing. It was obvious that he thought there was something there and he was terrified." After awhile Kyle began to develop some anxiety about bedtime. Things have improved but Kyle is still not a sound sleeper.

Kyle continued to have difficulties with recurring sinus infections and headaches which persisted throughout his preadolescence and into his teens. He continues to have a chronic stuffy nose. He didn't have as many problems with other types of recurring infections. His problems for the most part seemed to localise in the sinuses and he continued to have frequent recurring headaches. He was on a Steroid that was inhaled through the nose. He took this daily. He also required antihistamines. Kyle has continued to experience frequent difficulties with leg pains. He commented "they were like growing pains but they just stayed a long time."

Kyle also seems to have dry sensitive skin and is prone to skin irritations and rashes. His mom gave an example: "this fall he got huge blotches on the trunk of his body, usually about down to his knees. He broke out all over except on his neck and face. The doctor told me it was a fairly common viral infection. That was back in September of this year. He felt it would be gone in 5 or 6 weeks. In December he was still breaking out in rashes." His parents also mentioned that they have to be cautious of the products they use when they launder Kyle's clothes.

When Kyle was about twelve years old, the Flynns began to have some concerns about him experiencing depression. Michelle mentioned she didn't know how much attention to pay to it because, "that's an age when a lot of children go through peer pressure and those types of things. It was hard

to know what to think.”

In December of 1993 the family took a trip to Ontario to an allergy “specialist” Kyle had testing done at a clinic there. Michelle recalls, “They gave him a shot of yeast and he basically curled up in a ball and cried. It was the most traumatic thing I’ve ever seen. In a matter of 2 minutes he went from being perfectly fine to crying, his head on my shoulder, basically curled up in a ball. It took him about twenty minutes to come out of it.”

Despite these health concerns Kyle continues to present himself as a bright, articulate, polite young man with a well developed sense of humour. Kyle does very well in school.

Michelle

Michelle is a forty year old elementary Resource teacher. She has been struggling with frequent health problems since the birth of her first born, Kyle.

When Michelle and I began to reflect on her health history she commented, “I was fairly healthy for the most part, had a lot of headaches.” Michelle talked in some detail about the pains in her legs she used to get as a child. When she was about thirteen she developed lactose intolerance. Michelle comments that her father has asthma and she has a sister who developed asthma in recent years.

She remained fairly healthy until Kyle was born. “After Kyle’s birth, I started to have a lot of health problems. All of a sudden I would become ill- migraines, vomiting, fatigue, depression the whole bit. I started having problems with PMS after his birth: swollen breasts, bloating, trouble sleeping.

I would go into severe depressions beforehand, and they stayed throughout, I was cranky and irritable... I also began to have problems with constipation and diarrhea. Severe headaches began to plague me. I would wake up at night with them and be in bed anywhere from 3-5 days. I also had problems with back pain. Yes, it seems like my health went down hill after that.”

Michelle and I went on to talk in more detail about some of her symptoms. She could never determine why she was struck with these sudden bouts of nausea and vomiting. She recalls, “I can remember one instance, we were having a party. I had to go up and check on the baby and by the time I got to the top of the stairs, I had a really bad headache and I had to go lie down. I couldn’t even go back down to entertain. I had to stay there because I was so sick. Other times it would be working up to it all day. There seemed to be no rhyme or reason to it and I would be at work for awhile when I was really sick. The headaches would be there all day, kind of under control, then when the kids would leave at the end of the day, it would be about one-half hour after and I would go throw up. This was occurring fairly often, probably about three times a week that I would throw-up and the other days I’d feel like I had to but didn’t. It was a daily occurrence.”

It was during this time that Michelle continued to search for someone to help her make sense of these problems. She continued to have an open mind and learned to take some of the advice of the physicians she visited and began to walk away from others. One of the struggles she experienced was again; no one seemed to have a strong sense of what was wrong with her. She remembers the comments of one of her doctors, “...she was a woman and she was very, very good. She tried to delve into things to try to

determine why and then she would send me to a specialist to check. And of course nothing ever came back so by the end of my time with her I think she was feeling rather frustrated. I was starting to feel her frustration too. I guess the last comment I can remember her making was 'your comments are so vague and feel they must have to do with stress'. I guess that made me feel baffled because I really didn't feel that my life was any more stressful than anyone else's other than the fact that I was so sick. I couldn't seem to get to the bottom of it."

She told me of times when depression would almost consume her and of the guilt she would feel because of it. "I think it would be a kind of defeatism. Maybe that I was the problem. That this is not going to get attended to. You're never going to get out of this position. It would just be really negative, not being able to see the positive things that were around you and not being able to appreciate all the good things that were going on." Michelle often wrestled with feelings of guilt because there were times when other members of the family had to "carry more than their share of the load" because she was sick on the chesterfield.

Mark

Mark is a forty-one year old junior high teacher. He has had problems with allergies all of his life. He continues to have a keen sense of humour and seems to be able to laugh and joke about many of his difficulties. He comments that his mother always reminds him he was a colicky baby. As a toddler he was prone to constant ear aches and ear infections. He recalls, "when I was a really, really small child I developed asthma. All through my early school years I would miss weeks of school to asthma and the related

bronchial infections that would come as a result of it... . My mother had a long standing deal with the pharmacy on Smith's Road that when it (a bronchial infection) started she could go and get a certain kind of antibiotic to get me started right away. The doctor arranged it so that I could get these things in me without delay. That went on all through my elementary school years. Come to think of it I used to get really sore throats and inflamed tonsils along with throat infections... . In fact even in by B. Ed. year I missed the first week of my practicum because I couldn't speak."

As Mark began to mature he remembers very severe headaches. He had problems with migraines over the years. He took a strong prescription medication for these for many years. Many of these headaches were so severe that after several hours he would become incapacitated. "It was the light worse than the noise... you can't stand it. You have to go lie down in a dark place."

Mark did a lot of running in his early twenties and comments that it was the healthiest times of his life. It was during his late twenties that he started to get severe head colds and lung infections. "I couldn't seem to get my asthma under control. It started to flare up at work, which had never happened before. My migraines became more frequent and I was losing time to headaches. I'd wake up in the morning with a pounding headache and I wouldn't be able to go to work. I'd have to call in sick with a migraine. I was taking my puffer all the time to try to get some relief from my asthma. My doctor finally sent me to a specialist and the specialist started me on the road to exploring something else that might have been triggering my asthma, the allergies. I had been tested when I was young and knew I had allergies to a

number of airborne things like cat and dog fur, golden rod, feathers when I was young and they still bother me. This new specialist started me on an elimination diet... . My family doctor had the sense to do that then. I think he started me on the road to all this. He could have sent me to see some chest specialists, right? But he didn't. I was taking all of these foods out of my diet and everybody thought I was crazy. This was years ago."

That was about fourteen years ago. Since that time Mark has continued to watch his diet very closely. He continues to try to stay away from processed foods because many contain a lot of additives. He tries not to eat dairy products, wheat, peanuts and chocolate. He feels his health has improved overall with these changes to his diet. Many of the difficulties he has experienced in later years he connects to environmental factors and seasonal changes. He also notices difficulties if he becomes careless and slips off his diet.

**Report on Air and Substance Sampling from Bethany's School
Date: February, 1994.**

Grade 3

Samples indicate that there may be some moisture problems. *Aureobasidium pullulans*, *Mucor plumbeus*, *Rhizopus stolonifer*, *Trichoderma harzianum*, *Ulocladium chartarum* and yeasts are species that grow in damp places. Note that no information can be provided on the relative abundance of these species in the substrate samples. No comment can be made concerning the impact of these fungi on the interior space.

That this school has been suffering from modest water contamination problems is confirmed by the following observations made on inspection.

- a) Water-marked ceiling tiles
- b) Water contaminated ceiling tiles

Sample Number	CFU/m ³	Species
RCS samples		
1 Rm. 17	13	<u>Cladosporium cladosporioides</u>
Swab/Substrate samples		
3 Ceiling-tile lint		<u>Penicillium brevicompactum</u> , <u>Mucor plumbeus</u> , <u>Aureobasidium pullulans</u> , <u>Trichoderma harzianum</u> , <u>Ulocladium chartarum</u> , <u>Cladosporium</u> <u>sphaerospermum</u>
Water contaminated ceiling tile		<u>Penicillium lividum</u> , <u>Ulocladium chartarum</u>
Vacuum bag sample (Bethany's Classroom)		<u>Penicillium chrysogenum</u> , <u>Mucor plumbeus</u> , <u>Cladosporium</u> <u>cladosporioides</u> , <u>Aureobasidium</u> , <u>pullulans</u> , <u>Rhizopus stolonifer</u> , <u>Trichoderma harzianum</u> , yeast

None of the species recovered to date are human pathogens. *Penicillium brevicompactum* and *Trichoderma harzianum* are notorious mycotoxin producers. The CFU/m³ levels are low and well within acceptable limits.

Report completed by a PWD Accredited Mycologist

Chapter 5

Revisiting Health Embedded Within An Environmental Context

The idiosyncrasies of Allergies: A Holistic Perspective

It is not the intention nor the purpose, to address the overwhelming controversy surrounding environmental illness, chemical sensitivities and their connection to allergies versus the perspective of traditional medicine. I would, however, like to provide the reader with information in order to clarify some of the terms I have constantly referred to previously, i.e., the idiosyncratic nature of allergies. In addition, this information serves to paint a more complete picture of the fabric of Bethany's life and learning.

Rea and Ross (1989) support the complex nature of allergies. Patients who suffer from symptoms of environmental triggers are often confused with hypochondriasis, because they have such a wide variation of symptoms.

These symptoms may affect many various areas of the body in a idiosyncratic manner. Rea and Ross clarify the areas of the body that may be affected by

allergies and environmental sensitivities:

1.) Smooth Muscle System - Any part of the smooth muscle system may be affected. Responses in mucosa and collagen system can be involved. Most of the inflammatory diseases of an unknown etiology affect smooth muscle. mucosa or the musculoskeletal system. It may well be possible that these inflammatory factors have a connection to environmental factors, either as influencing factors or triggers.

2.) Respiratory System - Environmentally triggered disease which affects the respiratory system are multiple, and often include medications, formaldehyde, foods and other chemicals. Cigarette smoke, hair spray, or pesticide can cause difficulties for chemically sensitive patients with respiratory problems. Resulting symptoms can include postnasal drip, hoarseness, cough or wheezing, sinusitis, laryngitis, bronchitis and asthma.

3) The Gastrointestinal System - If the gastrointestinal system is involved the patients may develop abdominal pain, bloating, constipation and/or diarrhea. Bad breath or frequent belching may also be of concern to the patient. Reflux esophagitis, gastritis, colitis or ileitis may also occur. Complaints may include urinary frequency and urgency, vaginal discharge and back pain when the genitourinary system is involved.

4). The Vascular system - If the small arterioles, venules, and capillaries are involved then the symptoms will often be vague. Patients may complain of

fatigue, vascular, and tension-type headache, nosebleed, hemoptysis, spontaneous bruising, petechiae, peripheral and periorbital edema, cyanosis, adult acne and Raynaud's phenomenon may occur in response to environmental sensitivities.

5). The brain - The brain is often a frequent target for environmentally susceptible patients. Cognitive and emotive aspects are often affected. Patients may suffer from severe unexplained anxiety, depression, unexplained anxiety, inability to concentrate or reason clearly, headaches, mood swings, hostility, visual and balance disturbance, tingling sensations or dizziness.

Ashford and Miller (1989) point out the importance of understanding the concept of adaptation, "Adaptation is important here for two reasons: (1) adaptation makes it difficult to discover the effects of a particular exposure on the body. (2) chemical exposures may adversely impact adaptation mechanisms thus leading to illness. Adaptation to an enormous range of substances has been noted. These may be divided into five major subgroups: (1) outdoor air pollutants, (2) indoor air pollutants, both domestic and workplace, (3) food contaminants and additives, (4) water contaminants and additives, and (5) drugs and consumer products."

Schools as well as other large institutions are often liberal with the use of cleansers, disinfectants, floor waxes, etc. which may be toxic to chemically sensitive people. Other common items may include such things as markers, laminating machines, ink, new carpet, and particle board. Air quality continues to be at the forefront of environmental concerns.

Environmental Concerns

Several of the teachers at the schools Bethany has attended talked of their own concerns about environmental issues. The grade one teacher commented, "I know there are concerns in this building by some teachers who have moved upstairs. I think concerns tend to be in the basement in some of those rooms. I believe people who are more sensitive have requested and received a change of classroom. Parents have expressed concerns about their children. There have been complaints about symptoms such as drowsiness, headaches, sleepiness, colds and other respiratory problems. In my opinion, there seem to be an awful lot of kids over at the other school who are sneezing, coughing or congested."

The grade three teacher spoke of her own concerns addressing her classroom last year, "Actually, I had a problem when I first went to that school, for the first month or so. I found that my energy was really low. We were in the basement and the carpets... . Every time it rained, the rain came in on the carpet. So the carpets must have had mold, or whatever. They apparently did some testing and didn't find anything; but I don't believe that. So, what I ended up doing was trying to keep the windows open as often as I could without freezing everyone, especially in the winter. It was never meant to be a classroom. It was a storage room that was later carpeted to be a classroom. We had small windows way up high in the ceiling. I had to climb up on a chair to open a window." Mrs. Harris also had concerns about the the janitors spraying air fresheners. These sprays made her feel dizzy.

Health Perceptions of Bethany

Bethany's teachers in general agreed that Bethany had a significant number of health problems. Mrs. Lutwick who taught Bethany in grade primary and grade two recalls that she missed a fair amount of time because of asthma. When she missed school, it was often three or four days. She recalls Bethany making comments such as, "Madame, I don't feel good, my asthma is acting up, or I've got a bad headache."

Her grade three teacher, Mrs. Harris, recollects that Bethany was often very tired. Often her cheeks were red. Just not very energetic. "I could tell that she set out wanting to work but there was always something that interfered with it. It's not like she was chatty or overly sociable during class. She would just wear down so quickly. Sometimes she would have a headache. And the conditions in the classroom were very... (Mrs. Harris didn't finish her sentence.)

Ms. Wilson is Bethany's grade four teacher. She believes there are quite a few days that Bethany doesn't feel very well. Sometimes she gets a headache; other days her asthma acts up; other days she feels sick to her stomach. "I believe she attempts to deal with not feeling well herself before she comes up to me. I feel she makes every effort to stay and every effort to work. She doesn't like for anybody to think that she's not well. All the kids know now that certain children have sensitivities to certain smells such as markers. We've tried to include other kids, not just point to Bethany. She's good. She's mature. She handles it.'

Ms. Wilson notices that there are certain times when Bethany displays

a shift of personality which is out of character for her. "Her face turns red. Her eyes go sort of half-mast and if you look at her it bothers you because you feel like she is dismissing you. If you didn't know she had this other side to her, if you didn't see her engaged and polite and her hand up, then you would find it hard to find the patience within yourself to deal with her. She gets spacey, lethargic and speaks kind of slowly." I believe she is reacting to something."

Bethany has been taking private piano lessons from Mrs. McNeil since the fall of 1993 . Mrs. McNeil says that Bethany never mentions her health very much. "Sometimes she says she has a cold which I think is probably connected to her allergies. I think Bethany feels sick so often that she just accepts it as a way of life."

I asked Bethany, "Do you ever get sick?" She found the question quite amusing, giggled for a long time and then responded, "I get sick a lot." I wanted more information from her so I asked, "Can you tell me some of the different ways you get sick?" For some reason, this line of question seems to bother Bethany. She seemed to hesitate more and appeared to be struggling more to express herself, nevertheless, she told me,

Last year, my teacher told my mom that I was sick everyday and I was. My asthma was acting up. I couldn't concentrate. I had headaches. I was dizzy. I wasn't able to do lots of things.

I would get these headaches at school last year. They would be really bad like migraines except I don't get all the symptoms of migraines. I didn't want to do anything. They would be very severe, my mind would shut down.

I don't seem to get as many headaches this year but I feel nauseated. I get these strong feelings like I am

going to vomit, not really sick to my stomach, more in my throat. I don't vomit, I just feel like I'm going to. It comes and goes. I'm starting to get used to it.

Life Goes On: Other Family Members Address Health Concerns

Other members of Bethany's family continue to have health concerns within environmental contexts.

Michelle continued to visit doctors and wrestle to construct meaning out of the on-going perceptions of what was wrong with her until she was finally diagnosed as suffering from environmental illness and has found some relief for her conditions through an elimination and rotation diet. She has also benefitted from vitamin supplementation and the use the use of antigens.

Although she is still not 100% well, she comments on her progress, "I have a sense of what is happening and I have some control over it because I can choose to stay away from many of the things that bother me. I can choose not to use those things in our house. I've gotten a lot of support at work in terms of them refraining to use certain cleaners and chemical products in the classroom, those kinds of things. And I know what's happening to me. When I'm sick now I know this isn't me making it up. Although stress probably contributes to the sickness and doesn't make it any better, it's not entirely stress... . The depression, I think, is better because it was partially from being sick all the time and not knowing why. Now I'm not sick all the time."

Mark Flynn recalls that in the fall of 1994 Property Services began to retar the roof of the school and paint the interior of the building. This occurred at the same time school started in September. The retarring of the roof took 2 weeks but the painting continued for the whole month of September and the month of October. By the end of September Mark felt as if he was often incoherent in class. He commented, "I was always a teacher who makes plans but I don't need to refer to them. I know what I'm going to do for that day. That year Mark began to have headaches more frequently. He noticed that they seemed to occur on Wednesdays. Mark gets the sensation that the room is starting to close in on him when this happens and his perception dims. He comments, "I'm not thinking clearly, Words don't seem to come. " He started to have difficulty retrieving such ingrained things as people's names. "I can remember being in meetings with people I had worked with for 2 or 3 years and I just couldn't recall their names. I can remember being in conversations and not being able to finish the sentence because the words wouldn't come." Mark smiled and added, "I can feel my ears getting hot. I sometimes stop and ask someone, 'Are my ears red?' " Mark notices that this happens to him quite often when he is in a room with poor ventilation or chemicals he has a sensitivity to. Often he starts to develop a headache. " I have to get out of there and get out into the fresh air.."

As usual, Kyle was very well spoken. When I asked him how his allergies bothered him, he responded, "I do have a lot of allergies. As Bethany is oriented more to food allergies, I have more airborne and chemical allergies and sensitivities. Sometimes, such as when I'm in church

or sometimes when I'm at school; different hair sprays and colognes... . I just can't stay awake. They tend to make me sleepy. Sometimes I get headaches." Kyle notices that he often gets stuffed-up, as he has a lot of "sinus based difficulties". He also is bothered by sore throat and itchy eyes when he is exposed to smells, chemicals or airborne inhalants.

Chapter 6

Perceptions

Bethany as a Learner

How we perceive ourselves, and how others perceive us to be, shapes our identity. The following is the story of Bethany as a learner as told by Bethany along with the other members of her family and the educational staff of the schools she has attended. Excerpts from school testing, and report cards are also included.

Through the Eyes of her Family

Michelle smiles proudly as she recalls what a wonderful baby Bethany was. Even as a toddler her mom remembers people commenting “ Is she always this pleasant? Is she always this happy?” Bethany has always been easy to please.

As a preschooler she loved pen and paper kinds of activities. She would draw or scribble on paper. Michelle recalls, “anything ‘artsy craftsy’ was high on Bethany’s list. She enjoyed watching television, singing and any social activity such as Sharon, Lois and Bram concerts. She wasn’t really one

who would just sit back and watch activities from afar although she was very shy and quiet. If someone asked her to join in she would be right there in the middle of it." Bethany loved books and being read to. She would often carry books around the house hugging them as many children would do with a teddy bear. Bethany often took books to bed and slept with them.

When she was about two and a half or three her parents started to become aware that Bethany was somewhat lethargic compared to other children her age. Her mom says she was even somewhat "spacey" at times. She appeared to be having difficulty catching on to some basic things that just seemed to come naturally to so many other children. Things like riding a bike or climbing a ladder. She appeared to lack that natural curiosity that her brother Kyle, along with most other children had such an abundance of.

As she approached school years, her parents decided to enter Kyle and Bethany in a French Immersion School, as they believed this would be advantageous for them in future years. Bethany seemed to have a good attention span and could attend to activities for quite an extended period. Her parents still had concerns that she lacked interest in many of the areas in which her brother had shown such a keen curiosity. Concerns also began to surface about Bethany's ability to make "connections". Her mom decided not to "push" Bethany but rather stand back and let her develop naturally at school. "I was afraid I was over reacting. I purposely wanted to step back and say, Okay, let the school do this because if you step in right now with your level of anxiety about her having difficulty you may make the problem worse." She continued to avoid mentioning anything to the teacher because she didn't want to "plant an idea in anybody's head."

Michelle went on day to day wrestling with her own images of her daughter, "Maybe it's just my own perception. I waited and waited and really nothing came back. There was nothing for me to be concerned about. She seemed to do fine at school. She was interested. Bethany seemed happy with herself. Finally, at the end of the year I asked some specific questions about her progress. I felt sometimes in grade primary you're not really sure if they (the teachers) want to just come out and say something (negative). But I was told that there didn't seem to be any problem." The following are anecdotal comments written on Bethany's report card at the end of grade primary:

Bethany has progressed very well in the French Immersion program. She continues to make a very good effort to use French in the classroom. Bethany can recognize the letters by name and sound although she sometimes has trouble with Ee, Ll, Qq, Yy and Mm. Bethany can count to fifty in French but is not always sure of the names of the numbers in mixed up order. This will come with practice. Bethany understands the math concepts covered. She continues to retain vocabulary easily. Bethany is an independent worker. She gets along very well with her peers. I'll remember Bethany fondly.

Another area both parents continued to become more and more aware of was Bethany's gross motor skills. Her mom spoke of her having difficulty learning to ride a trike and a bike. Her dad recalls, "We had him (Kyle) on skates at an early age. He was cross country skiing at age 4. He's been exposed to a lot of different activities. He seems to enjoy them... She (Bethany) is quite the opposite. She had a hard time running and playing. She seemed a little clumsy. But, I can remember we used to take the kids on hikes and she seemed to have difficulty negotiating her foot path through the woods. She

would walk with her head down.... She'd be watching her feet... . She seemed to be having difficulties tripping over things. Although she doesn't eat much she's always been a little on the heavy side. She always seemed tired when she was running and playing. She prefers to do craft types of things you know. She's very good with her hands."

In grade two and three Bethany began to have more homework. She would sometimes have two to three hours of homework just to stay "caught-up" with her school work. It was usually her mom who would help her in the evenings. During these sessions Michelle became acutely aware, when I asked her to comment on these times she responded, " I wasn't really concerned about attention. She could sit down and work an enormous amount of time on anything but the problem was that no matter how much time she spent at a task at the end of it you weren't really sure that she had any more about of it than when started out. So it wasn't her ability to focus, it was to take what you had talked to her about and store it in such a way that she could retrieve it and do some critical thinking with it. It was really the higher level things."

The following are the comments written about Bethany's progress at the end of the school year for grades one and two consecutively.

Grade one teacher -I am pleased with Bethany's progress for this term. She has shown great interest in the reading and writing of French. Bethany has really applied herself this last term and her daily work was always well done and completed on time. She participated in all math activities and understands the Math concepts presented this term. Have a nice safe summer .

Grade two teacher- Bethany has had a successful year in grade two French Immersion. Bethany has

made a great effort to strengthen her reading strategies. Bethany chooses to read when given the opportunity. She reads aloud when appropriate. Bethany predicts possible outcomes from the title. She predicts appropriate words and phrases from a sequence of text. Bethany writes independently for longer periods of time. Bethany is beginning to edit her own writing but must continue to look for cues around her environment. Bethany can construct and interpret simple bar graphs. She is beginning to demonstrate an understanding of adding and subtracting of two digit numbers with and without regrouping. She is also developing an understanding of problem solving. I wish you much success in grade three Bethany.

All report cards indicated that “your child is not experiencing difficulty with the core materials set for this grade”, for all three terms. Mark reflects on his struggles to make sense of the situation as it was presented to him,

“As we said, the report cards had been fine. And do you know there were times when we had concerns and would ask them (the teachers) the question directly. If you could cut the class in thirds, which third would you place Bethany? People never really said that she in the bottom third or that she was having any severe difficulties. Our feeling was that she was progressing normally. So, although we had suspected that there was some slight difficulties in some areas of understanding we didn’t see her as some kid who was having severe learning problems. We weren’t looking at a remedial program so that she would catch up as was suggested in grade 3, or that we were looking at a child who was basically always going to be functioning at a lower scholastic level. No, we had never seen her as someone who would be in that situation. We certainly thought, yeah, she’s going to have to work hard at times to succeed- to do well with some parts of her learning. But we never thought of her as someone who was learning disabled. And certainly she can, at home she would

compose all kinds of stories and poems and she was writing all the time. Now mind you the mechanics, spelling, grammar, those kinds of things (were weak). But her use of language, vocabulary, the way she constructed her sentences certainly suggested that she had a fairly complex ability and knowledge of language usage. She struggled over her math sometimes. At any rate she seemed to be feeling very stupid and dumb about herself in grade 3 and not being able to cope.”

Self-Perceptions

By the end of grade two Bethany began to perceive herself as experiencing educational difficulties. As I interviewed Bethany, in the fall of grade 4, I became intrigued with this youngster’s acuity, as well as her ability to verbally frame her self-perceptions.

Grade two was gradually getting harder but I still didn’t realize I was going to have problems. I felt Okay about my grades and I knew that I was Okay in that grade but... The teachers read with me a lot and that kind of gave me a bad idea at the end of the year.

I’d be scared to read even with my best friend because I just couldn’t do it (reading). In French, I really hesitated.

I couldn’t do number tables that were just for fun. I just couldn’t do them. I would hesitate on them. I wouldn’t feel right about them. I just couldn’t understand.

Bethany’s calm and mature presence sometimes made me almost unaware of her chronological age. She talked in great detail with me of her feelings about herself. She always felt surprise at report card time because , “I

never really got bad marks". She couldn't figure out why because in grade three "I started to have a big problem learning and I had to go to the resource teacher". Bethany looked a little embarrassed as she recollected that she could "barely get through Standardised testing... . I'd try to go back and picture the page that I had to look at in my head but a lot of the time I wouldn't get it. I knew it meant it was time to go on, it was too fast... I joked about it a lot. I wanted to hide that I was so scared. After my mom tried to explain about them to me I understood about them, but Standardized testing was kind of real bad."

Bethany spent on the average of two to three hours per evening during the week nights on homework in grade three. Her brother commented on what a hard worker Bethany is. Bethany reflects, "Math was a nightmare. I couldn't get through it. I'd only get about 2 questions done. I'd look up and around and I remember being the only one not done. I'd have to take it home. The recess bell would ring. I'd feel like I'd been let go, yes. But in a way I'd feel like I had to do it again tonight. It took about two hours for my homework and my mom would help me a lot."

As Bethany continued to reflect about her year in grade 3, she shared her former enthusiasm about writing, " My teacher loved my writing, my stories. In grade 3 I still wanted to be a writer but after about the middle of the year I really didn't because spelling came along and I wasn't doing too well in spelling and so I said, I have some pretty good ideas but I dropped off writing because I couldn't spell."

It was indicated on Bethany's report card for both second and third terms that she was experiencing significant difficulty with core materials for

this grade and was receiving assistance as indicated in the areas of mathematics and reading/writing. The following are the comments written about Bethany on her third term report card.

Bethany has made some considerable gains in Language Arts this term. She is more confident when reading a text to me and relies more often on her own strategies when encountering unknown words. She re-reads and self-corrects when she knows that the passage or the word that she has read does not make sense. It is still a challenge however for Bethany to read and understand French texts. As well, she often appears to misunderstand or not understand directions given orally in French. It would be very beneficial for Bethany to practice her spoken French during the summer if she has the opportunity. This would also help increase her vocabulary and make sentence structures and expressions more accessible to her.

Bethany has made some gains in Math. I am concerned about the lack of consistency in this area however. At times, she is able to solve problems involving addition but other times does not seem to grasp this concept. I do not feel that she has a clear understanding of subtraction as she is often unable to apply this concept when solving simple problems.

Bethany had a good grasp of science concepts viewed this term. Her plant experiment was a constant source of curiosity in the class. She is beginning to develop an understanding of fair testing and to apply it to her investigations. It has been a pleasure to teach Bethany. She has worked very hard this year. Bethany, I hope that you will continue to write such great stories!

As Seen by Educational Staff

As I spoke to Bethany's teachers I could feel their own frustrations with Bethany's learning. Her grade three teacher made the comment, " I felt that Bethany was a very bright girl and that there was just something not working... ." All of her teachers spoke of Bethany as presenting herself as well- behaved, nice, polite and lovable. She was very neat and conscientious. Her work was always well presented and she was well organized. Most of her teachers perceived Bethany as being somewhat lethargic, quiet, a little nervous and a bit of a loner. Her teacher this year describes her as a "very bright girl who has a wonderful vocabulary and is keenly interested in being uniquely expressive." However, when I questioned them about Bethany's academic performance both the grade two and the grade three teachers felt she was "performing" within the bottom third of the class. The grade three teacher remarked that there was only one other child who was functioning at a level lower than Bethany. She went on to mention that most of the children in the class came from a similar cultural background as Bethany, that is two English speaking parents. Bethany was continuing to experience difficulties with basic French vocabulary, "which most children would have picked-up by the end of grade one." In addition to the difficulties with French, she was also experiencing problems in the areas of mathematics and language. The grade three teacher went on to observe that often Bethany still had to rely on print from around the room to cue her and she still relied on her fingers because she didn't know her math facts.

Due to these concerns, Bethany began to see the Resource teacher on an informal basis in grade three. The resource teacher recalls, "...When she came to me she was in grade three, it was an immersion three (French Immersion). She came in reading, I would say at late grade one. I first tested her in January and when she left me she was still showing some of the same difficulties.... reading still being hard work. She had very good language, (English language skill), good knowledge of vocabulary, she could really express herself. So she could do some of that predicting that we hope kids are doing today. But I would have expected a lot of things to be right there at her finger tips... . Everything had to be very deliberately studied for Bethany. She finished up straight word decoding at late grade 2 and in context middle grade 3 so she had done quite well. Again, I noticed it was a very concentrated effort. When she was reading a middle grade three passage it was a lot less fluent. You could see it was hard work. I think it shows evidence that things weren't automatic. Memory was another thing that I questioned with Bethany. I think that memory extended to math very much. Basic math she just couldn't seem to grasp. French vocabulary was something too that she had a lot of trouble recalling."

Chapter 7

A Rocky Road

Learning Blocks Connections, Inconsistencies and Memory Concerns

Bethany had the same teacher in grade primary and grade two. She doesn't remember Bethany experiencing any significant difficulties in grade primary except that she sometimes didn't participate. She recalls that her work was beautiful and that Bethany was very artistic, neat and conscientious. When reflecting upon Bethany in grade two her teacher recalls, "I found her to be very lethargic. She complained a lot about headaches, about her asthma. At times I didn't know if it was health related or if it was just because she didn't want to do the work and go home. You never know. It was hard to pin point. She had difficulty in math as well. A simple addition or subtraction problem would be a task for her to relate to, see the problem and solve it, a lot of reversals as well. I assured the mother that I felt it was a developmental thing. She needed a lot of explanation and if you asked her if she understood she'd say "yes". Then you would go back and check and she hadn't done or solved the problem. So, I was wondering, gee, is it the language she doesn't understand? But you know I still feel that she

understood French. Very lethargic- very slow moving, hard to get going... . It's difficult to tell- is the problem language or is it reading or is there a disability there?"

Bethany's grade three teacher perceived her as having some very serious difficulties, "She was certainly below grade standards. She didn't seem to remember strategies that would have been taught earlier. And because she couldn't remember the vocabulary it was very hard for her to predict structures and words... She just couldn't remember vocabulary and things that she should know by now. Just to give an example, like the parts of the body would be something that would have been seen in Primary and that is used a lot. A question from her might be, "how do you say hand in French?" These are words that should have been in place. And sometimes she would know it but sometimes she wouldn't. There was certainly inconsistency... . She really wanted to write and she wanted to read her stories to the class. But it was hard for her to find the words in French."

The teacher felt that the inconsistencies were also reflected in Bethany's math work, "sometimes it seemed that she would have the concept and the next day it could be the same thing and she would have no clue how to go about it. Something like subtraction, she wouldn't remember, what do I have to do to solve this problem? Like it could be something as simple as; I have 3 candies and I give 1 to, whatever, just couldn't think of how to solve that. Where as another day it would come to her. It just wouldn't be consistent."

Mrs. McNeil, Bethany's music teacher, felt that memory was an area of weakness for Bethany. Although Bethany previously had three years in another music program, when she started with her, Mrs. McNeil felt it was

necessary to go back to the beginning with Bethany. "I had to work very slowly." She believed that Bethany had some "glitches" in her memory. As I continued to speak to Mrs. McNeil, I could feel that she had become quite fond of Bethany. She seemed to admire Bethany's persistence and determination to succeed. She felt that directionality and special relationships continued to be difficult concepts. Such things as: up, down, forward, backward, left, and right required a lot of work, a lot of repetition.

The grade three Resource teacher also shared the bewilderment about Bethany's struggles with literacy and problems making connections, "...that natural learning never seemed to come, like it was very deliberate, very purposeful and very much effort.... . For a child who has done so much reading, who would have expected her to have.. (a problem?) I know that at home the situation must be just exemplary- you know as far as the modelling members- the reading too. You would have expected her to be so much more fluent. That's what I noted with respect to the other children. Some of them who started off weaker than she. A couple of them just zoomed with it. One other girl, similar in a sense to Bethany, once April came the flood gates opened. It all came together. It just never seems to have done that for Bethany. It's still hard work for her."

These cumulative concerns peaked at the end of grade three when both teachers and the parents agreed to have Psychological testing done through the district school board. The following is the summary statement from the psychological testing completed at that time.

The present assessment results indicate that Bethany Flynn (CA 9-0) is functioning in the average to high average range of ability. Relatively lower scores were recorded on the tests assessing

auditory memory span and visual span for letters. Achievement in basic French is below that in English. The acquisition and comfortable use of the French language is a concern at this time. The role of allergies on Bethany's learning and well being may also be a concern.

Bethany's dad shared with me some of his "blocks" which first emerged in childhood but have remained with him throughout the years. Mark reflects in general, he was a very good student and was very well organized. But during one of our conversations, I asked him if he remembered having any areas of weakness as a student, he responded, "Mathematics. Basic computational skills, I had difficulty with and still do. I had extreme difficulties memorizing my times tables. Extremely difficult- for some reason I could remember dates and times and things with great accuracy but I could not remember my timetables. Even to this day, sometimes I'm not sure. I have to go through them and I still don't know the reverses. I've learned them one way and I don't know the reverse. If I get 6×7 I can't tell you 7×6 . I just can't. I have to go back and do it the other way and I don't know why that is but it's true... I had difficulty mastering the telling of time. Hands of the clock- desperate time learning that. I can remember in elementary school feeling self conscious about that."

Bethany's Journey With Literacy

When I spoke to Bethany's mom and dad about the role that literacy experiences play in their lives, they both felt that 7 or 8 hours out of each week day was spent on literacy activities. Michelle spends on an average of 5

or 6 hours a day teaching reading and writing to children who are experiencing difficulties. She then spends another couple of hours after she comes home on other types of literacy activities such as reading to obtain information about a topic of interest. Michelle enjoys writing and is presently co-authoring a book of spelling strategies.

Mark teaches Social Studies and English. He too spends on an average of seven hours each week day on literacy related activities. After school Mark spends time reading and correcting assignments and writing is a daily activity. He sometimes writes articles for professional purposes.

The children have been read to on a daily basis since they were very young. Michelle recalls, "we started reading chapter books to Kyle as a preschooler. He has always enjoyed them. He was quick to get into a story and always knew what was going on."

When I spoke to Mark about the children's preschool literacy experiences he agreed, "Yes, they were read to a lot. It would be all the time for both of them, at night, daytime. When Kyle was four, I was off on sabbatical and I was doing a lot of reading and writing. So I guess Kyle was exposed to the whole process of what it means to be a writer. He saw me writing on the computer, on paper, all kinds of stuff. He was home with me when I was doing that kind of thing all day. Writing has always been a big deal around our house. I have always been very interested in writing." Mark goes on to recall that in Kyle's younger years they used to live outside of the city. He and Kyle would have a thirty minute drive to Halifax. Mark got into the habit of oral story telling to help pass the time during the long monotonous drive to the city. This habit continued after Bethany was born.

As Mark began to run out of traditional stories he began to replace them with stories of Greek mythology. Both children soon grew to love these times together and these stories still remain some of Bethany's favorites.

Kyle seemed to pick up on reading fairly naturally. He has always done well with learning both in school and in other learning situations. His teachers describe him to be well behaved, hard working and conscientious. His father mentions that they have often had compliments from teachers about him, "how he's quiet and calm". He interacts well with adults. He can carry on fairly sophisticated conversations. Kyle mentioned how he has received compliments about how creative his writing assignments are. He feels Social Studies comes "kind of naturally" to him because of the stories his father tells at home.

Because Kyle seemed to pick up on reading fairly naturally, during the early years the Flynnns felt Bethany would do the same. She was always being read to, she was the kid who was always into books but she didn't seem to pick up on learning to read as quickly as Kyle did. "We were quite surprised when that happened because it seemed like we were doing the same sorts of things with both kids....".

Bethany's mom reflects that although they perceived she wasn't "catching on" to reading in the same way Kyle did, Bethany still saw herself as a reader. As a preschooler she would read books in a 'magical' sense, as many preschoolers do. She believed she was indeed a reader until one day an older neighbor dropped by and pointed out to Bethany that she wasn't "reading" at all. Michelle wasn't sure how much impact this event had on Bethany's self-perception as a reader. When I spoke to Bethany about reading

she talked of her love of books and being read to.

Bethany continued to see herself as a reader for the most part until the end of grade two. It was at that time she noticed the teacher was spending extra time with her and having her read quite often. Bethany observed that this wasn't happening to the other children. She commented, "That kind of gave me a bad idea... Why are they spending so much time with me and they weren't spending a lot of time with the other people? At the end of the year I started to wonder."

Bethany's struggles with literacy continued to baffle those around her. From all indications, her parents and her teachers believed she should have been reading more fluently than she was. The grade three resource teacher continued to be perplexed as she reflected on some "receptive language testing" she had completed with Bethany.

One thing that she scored very well on, although again it was very slow going for her; very, very, deliberate, was a test of receptive language which is an understanding of how well they understand the meaning of words. She did in the very high average on that. When she first came in, in January reading at a late grade 1 level, I noted she knows a lot of conventions about print and she could pick them up and notice them but it was almost like she had to go through the thinking process. Okay, the beginning of the word, that can sometimes be silent. Okay I won't say that. It wasn't immediate. She seemed to benefit from a model I found. If she was confused with vowels, which was a problem with her, I would give her a model word, even something as simple as "a" and have her compare to that...

As you can see from this running record that there's an awful lot of going back, of rereading, of self correcting of errors that she did go back and

correct but you can see how much work this is.”

I know my concerns with her right from the beginning when I first tested her, was that she had all the reading strategies, she knew what to do when something didn't make sense or didn't sound right or it didn't look right when she was reading...

Still the process remained fragmented for Bethany. She continued to lack flow, speed and confidence in herself as a reader and a writer. As the year progressed her teacher noticed that Bethany became more and more nervous, less and less confident. Her teacher commented, “ She was nervous. She was non-confident. Her self esteem was really low and I think she felt because she couldn't read the other kids were making fun of her. Things like that, she was really insecure with herself, with her peers... I remember at one point if she was to read or read with me she would say, Madame, I have a headache or I have a sore stomach. I want to go home. She complained a lot about wanting to home with headaches.”

Chapter 8

The Web Entangles Self Concept

Bethany's Struggles with Self Concept

By the end of grade three Bethany's difficulties were troublesome. Her teachers from the last couple of years used words such as non-confident, nervous and timid to describe her personality characteristics. They saw her as somewhat of a loner. The resource teacher commented, " She was maybe a little nervous and lacking in confidence. She would come to my class and I would expect her to do the same thing everyday. Check off her book, go make a selection, a choice from a selection the I had put out and yet she would come everyday and stand beside me. I'd have to say, 'now Bethany you know what you have to do.' And there were a lot of nervous laughs. She really seemed to lack confidence in her judgment of the situation."

Bethany realized that she was having a problem with self-esteem. She commented, "I had a really big problem. I couldn't stop comparing myself with some of my friends and some of my friends were doing really well in school- 'A' students. I put myself up to them and compared myself to them and I put me in a lower group than them. I felt like, I'm not supposed to be with them. I wasn't supposed to be in that class. I was supposed to be in a lower grade. I was supposed to stay there for a long time."

The feelings of frustration Michelle had harboured relating to her

family's medical struggles were swallowing her again. She and Mark both felt that the harder they were trying the deeper Bethany seemed to be sinking.

The end of grade three presented itself as a "fork in the road" decision for the Flynn family. As they carefully scrutinized the cards they had been dealt, they too began to sift and reduce assumptions and perceptions which they believed would be the most beneficial for Bethany's future. They found themselves weighing such factors as the importance of French Immersion to Bethany's academic success in light of the difficulties she was having, as well as the role her self-concept was playing in her life. Their concerns about Bethany's health in relation to the school environment as was also a factor in the decision that they eventually came to.

At the end of grade three the Flynnns took Bethany out of the French Immersion Program she had been attending since grade primary. They decided upon entering grade four in the fall Bethany would enrol in the school where her mom taught.

Bethany walked away with the following self-perception in relation to her experience with resource and the Psychological Testing from the previous year. " I went to Resource to get some books and see how long it would take me to read them I went to special testing. I know I wanted this because I wanted to see if I was really below the other people. I found out that it was just that there were a lot of "A" students in my class and there wasn't a lot of middle group . There were practically none that were behind and that's why I felt so bad. I wasn't really behind, I was actually in the middle group but since there were so many people in the "A"group, "A"students , that made me look and feel like I was struggling. Actually, there weren't a lot of people who

were struggling. Bethany by the end of grade three viewed herself as “disabled.” She commented to me, “It was hard for me to learn with my disabilities.”

Kindling the Flame

When I began to interview Bethany’s grade four teacher in January of this year, I thought perhaps we were not speaking about the same child. She described Bethany as, “ A very bright girl who has a wonderful vocabulary and is very interested in being uniquely expressive. She likes to use different words... She likes to write. She’s very interested in writing. She’s creative. She gets excited, She’ll write a story and she’ll get into it... . I would say she’s above the other kids in her writing skills. She can put sentences together that sort of focus you and get you thinking in terms of, the writing not being mundane. It’s descriptive, it’s thoughtful, it’s interesting. So, its good she’ll spell, that it doesn’t hold her back. She’s very creative. She’s very in-tune. She’s very interested in oral discussions, she’s interested in things in general. Usually if we’re discussing something that I think people don’t understand, she does. She has her had up and she can explain it. She’s very knowledgeable about a lot of things. She’s interested in everything. If she can get abut excited about things, she becomes a very active student, a very informed student. She wants to be a student. She’s very motivated.

Yet, when I delved deeper. I realized many of the difficulties were still there, they were just viewed with a different lens. As our conversation continued, I began to focus on Ms.. Wilson’s perception of Bethany’s weaknesses as a learner. She responded, “Her weaknesses... . I think her

weaknesses are her self confidence. her self esteem... .My focus for her is for her to know what she knows and for her to realize that she often depends on someone else to let her know what she already knows. We have this on going joke. It's like I say see, you knew you knew that."

In terms of graded spelling Ms. Wilson believes that Bethany is probably functioning a couple of years below her grade level. "It's very noticeable in comparison to other kids in the class in terms of functional spelling that most of the kids have in place. I would say she probably is one of the lowest spellers in grade four. Bethany continues to have difficulties with her reading being somewhat "below grade level" in traditional terms.

Ms. Wilson went on to describe Bethany's difficulties in math with the same slant of perception. She believes that Bethany had some "learned math anxiety" when she first came to her. She reflects Bethany, 'shuts down before she gets going." Ms. Wilson continues to work with Bethany in this area. She has noticed improvements in that Bethany will give it a little more attention herself before she goes up to her teacher for help. "And when she does come up I'll say,"what do you know? what do you need to know? She does have trouble with things like timetables. She needs some repetition in understanding the concept of groups. Concepts don't come easily to her, sometimes she may need another way in like a visual or a hands on thing. Another thing I find helps her is if she goes on to teach a child a concept that I have just helped her with... She's had 80's and 90's on her math tests... I find her very bright very reasonable."

When I spoke to Bethany's music teacher, I could hear the pride in her voice as she spoke of Bethany's accomplishments this year. "She seems so

much more relaxed this year. She doesn't seem to have so much homework. She has accomplished so much since the fall. Things that I really didn't think were possible for her. She's very hardworking. She can zero in and stay with something no matter how long it takes. She has a strong sense of beat." Mrs. McNeil felt some empathy for Bethany as she believed memory wasn't a strong suit for her either. She was pleased to find some strategies or hooks which helped Bethany remember. One example she gave me was, "I start at the end of the song and go backwards. That way when she is playing in a recital, she gets stronger and gains confidence as the song progresses."

Bethany, for the most part, feels better about herself this year. "I can finish my homework. We take home stuff that we can't finish at school. Last year there might have been twenty questions but I could only finish about 2 or 3. I would have to take the rest home for homework. This year, actually, I'm getting the whole page done." Bethany commented that she reads chapter books now instead of "grade one" books. She beamed with pride as she told me, "I've read thick books with more than 100 pages in them. I feel a lot better because I can take part in the books that other people are reading. I'll understand the sentences more. I read a lot in my spare time now. I love to draw and help my dad. I don't watch too much T.V. Sometimes someone might say, 'Did you read this chapter book?' and I can say, 'Yes'

Chapter 9

Findings of the Inquiry

Formulating Constructs through Analysis

Once I had sorted through the categories on the matrix, I began to recognize the interconnectedness of the patterns that were emerging. For Bethany, as I believe with other children suffering from allergies, I found it was next to impossible to separate her medical allergy connected problems from the social and educational difficulties she was experiencing at home as well as at school. The areas were clearly intertwined, interconnected. These interconnections, I believe were having a profound effect on the way Bethany saw herself as a learner as well as the way others perceived Bethany.

From the analysis of the data I compiled during this inquiry, the following constructs emerged:

- 1). Learning is physiologically/environmentally, socially/personally, and psychologically constructed and embedded.
- 2). Learning is interconnected, complex and idiosyncratic.
- 3). Perceptions act as learning catalysts or deterrents.
- 4). Self-perceptions empower/disempower learners.

These constructs emerged from the three categories: social/personal, educational/learning, physical/medical, which formed an early framework

for the inquiry. The constructs, in turn, served to underpin the working of my hypothesis. The richly contextualized and multi-perspective nature of the influences on Bethany's learning made categorization next to impossible, however, the categories for the initial framework provide a way of reporting about Bethany as a learner.

Physiological/Medical Context

Since birth, Bethany has been plagued with multiple health problems ranging from asthma, headaches, bowel problems and skin irritations to nausea and recurring upper respiratory infections.

Bethany

Bethany feels she is sick a lot. "Last year I was sick everyday, I couldn't concentrate. My asthma was acting up. I couldn't concentrate. I had headaches. I was dizzy. I wouldn't be able to do lots of things. Bethany commented that this year she seems to suffer more from feelings of nausea. She believes the sick feeling is more in her throat than in her stomach. She often feels as if she is going to "throw-up" but she never does. She made the comment "I am getting used to it now." During the interview sessions Bethany seemed the most reluctant to talk about her health.

Family members

Bethany's family have felt the frustrations of trying to make sense of Bethany's physical difficulties and have come to connect many of her problems to allergies.

Teachers

Bethany's grade primary, two and three teachers felt that she often verbalized that she wasn't feeling well for multiple reasons. i.e. headaches, nausea, asthma. The grade three teacher noted that Bethany "often looked very tired" and that "sometimes her cheeks were red." One of her grade primary teachers stated that sometimes Bethany seemed "spacey" and was sometimes off in a world of her own. The grade four teacher noted that sometimes Bethany's eyes would have a glazed look about them. The music teacher felt that Bethany seldom spoke about her health, except to say that she had a cold one in awhile, she believed that often Bethany's "colds" were allergy related. She felt that Bethany was sick so often that she didn't know what it was like to feel well. Most of the teachers agreed that Bethany wanted to work hard but that there was something getting in the way. The grade three teacher stated, "She just would wear down so quickly."

Records and artifacts

Bethany's medical records supported her health difficulties. They also supported the multi-perspectives from medical practitioners. One allergy "specialist" who took a traditional approach reported no allergies noted. While other allergy tests from an environmental medicine clinic from out of the province indicated that she was allergic to 28 of the substances she was tested for. Her parents were charged by the test, Her mom made the comment, "She was allergic to everything she was tested for. Thank God, we didn't have money for more tests." Testing at the environmental medicine

clinic indicated that two of the substances she was most allergic to were fungi and mold. Bethany's grade three classroom was located in the basement of the building. The air quality and substance report stated, " ...the substrate samples indicate that there may be some moisture problems. Aureobasicium pullulans, Mucor plumbeus, Rhizopus stolonifer, Trichoderma harzianum, Ulocladium chartarum and yeasts are species that grow in damp places. (Five out of six of these substances were found in the vacuum bag sample of Bethany's grade three classroom.) Note that no information can be provided on the relative abundance of these species in the substrate samples. No comment can be made concerning the impact of these fungi on the interior space. That this school has been suffering from modest water contamination problems is confirmed by the following observations made on our on-site inspection:

- a) Water-marked ceiling tiles in room 17
- b) Water contaminated ceiling tiles in room 3"

The degree to which these factors influenced Bethany's ability to learn is not known at this time. There is enough information, however, to warrant further research.

Family Members: Life Goes On

Allergy testing has indicated that each of the family members has multiple allergies and or chemical sensitivities. The Flynn family, in general, continue to experience allergy/sensitivity related health problems.

Michelle

Michelle continues to struggle with her health. Chemical sensitivities seem to bother her most, chemicals Michelle reacts to include: alcohol, salt, gas, perfume, paint, hair spray and certain cleaners. Michelle often suffers from depression, headaches and nausea when exposed to these products.

Mark

Mark experiences difficulties relating to memory, articulation of thoughts, and problems focusing which he relates to chemical sensitivities. These are the areas which he is left to the mercy of his environment. Although bowel difficulties and asthma continue to be recurring problems, Mark is able to have some "control" over these through the alteration of diet.

Kyle

Kyle continue to have a chronic "runny or stuffed -up nose". Scents continue to bother him and he often ends up with a headaches or feeling sleepy when he finds himself in a scent laden environment. Kyle has been able to find some relief to his bowel difficulties through the alteration of diet.

Educational / Learning

Bethany

Bethany has been immersed in a complex world of interconnected perceptions all of which have shaped her self-perceptions as a learner. She realizes that how she perceives herself is embedded within how she places

herself in a learning “hierarchy” that she has constructed for her class. She realizes that she can’t stop comparing herself to others and the students she chooses to compare herself to are often “A” students. She made several comments to indicate that she felt she didn’t fit in as a learner with the other children in her class. “I felt like I wasn’t supposed to be with them. I wasn’t supposed to be in that class. I was supposed to be in a lower grade. I was supposed to stay there for a long time.” Bethany’s struggles with learning have left her unsure of her strengths but well aware of her weaknesses. Several teachers noted that they have to talk Bethany into “knowing what she knows”. The grade four teacher commented, “ You know you know that Bethany.”

Somewhere throughout the learning process a lot of “I can’t’s” have slipped into Bethany’s vocabulary. Unfortunately, for a period of time Bethany became so discouraged that she no longer wanted to read and write even though she lives in a home where reading and writing are valued activities. Her love for books and reading as a toddler became submerged by a feeling of failure. She made the comment to her music teacher, “I can’t read, I’m in French Immersion.” She referred to her math experiences last year as a “nightmare.” Bethany recalled her experiences with Standardized testing, “ I was scared, Standardized testing was kind of real bad. I remember sitting alone and feeling... . (Bethany didn’t finish her sentence.)

Family members

Bethany’s mom and dad are well aware of the multiplicity of factors which influence their daughter’s learning processes. They are aware of their

own perceptions of her, her strengths and her weaknesses. As teachers, they have their own educational and personal paradigms which influence the choices they make for their daughter. Even with these advantages, painting a picture of their daughter as a learner has presented many challenges.

Teachers

Many teachers felt somewhat at loss about how to help Bethany. The resource teacher believed that although Bethany had a good command of the English language and a sound knowledge of many of the conventions of the language, the process remained slow and laborious for Bethany. She also expressed bewilderment because she felt the home modelling member from a literacy perspective were 'exemplary'. I noted that there was some inconsistency between comments made during interviews and comments on report cards. Although the parents had nothing but positive things to say about Bethany's teachers, they appeared somewhat confused by the inconsistent perceptions which were emerging about their daughter as a learner. The music teacher inferred that she had concerns about Bethany's ability when she commented, "I've had other "slow learners". The grade three teacher inferred that she didn't feel that a catch up year would help Bethany, Mark commented, "Although we had suspected that there were some slight difficulties in some areas of understanding, we didn't see her as some kid who was having severe learning problems. We weren't looking at some remedial program so that she would "catch up" as was suggested in grade 3. We never felt that we were looking at a child who was basically always

going to be functioning at a lower scholastic level. We had never seen her as someone who would be in that situation, we certainly thought, yeah, she's going to have to work hard at times to succeed. But we never thought of her as someone who was learning disabled." Yet, despite this inconsistency most teachers seemed to agree that they felt Bethany was a bright, intelligent, well-spoken and hard-working child.

The two teachers who appeared to have the most success helping Bethany as a learner, appeared to acknowledge Bethany's difficulties, both physiological and educational, but chose to focus on strengths. The search for ways to help Bethany focus on her own strengths and in turn foster her own self-concept as a learner. This shift of paradigm lifted some of the stress off Bethany and her parents and allowed her to see herself in a different way. She likes to read again in her spare time, her teacher this describes her as creative, excited, involved and knowledgeable. Her music teacher finds that this year Bethany is more relaxed and is doing things that she didn't think "would be possible for Bethany." She describes Bethany as "her pride and joy".

There is not enough information about the mind body connection at this time to determine the extent to which environmental factors (the change of classroom and school) have attributed to this positive shift for Bethany. It well could be that environmental factors played a significant role, at this time the "soup" is still in the making.

Records and Artifacts

Data collected through educational records, reports and artifacts

support that Bethany Flynn presents an inconsistent learning profile.

Bethany's struggles with Standardized tests provided the following results:

The summary statement from the Psychological Assessment which was completed at the end of Bethany's grade three year read,

The present assessment results indicate that Bethany Flynn (C.A.. 9-0) is functioning in the average to high average range of ability. Relatively lower scores were recorded on the tests assessing auditory memory span and visual memory span for letters. Achievement in basic skills in French is below that in English. The acquisition and comfortable use of the French language is a concern at this time. The role of allergies on Bethany's learning and well being may also be a concern.

Report cards from grade primary to two indicated that the teachers had no major concerns about Bethany's progress. The grade three report card, however, stated "that your child is experiencing significant difficulty with the core material set for this grade and is receiving assistance as indicated in the areas of reading/writing and mathematics."

Social/Personal Context

Bethany comes from a home that has strong family ties. The role the children play in often the focal point of daily activities. Driving the children to various activities, helping with homework and setting aside time to family activities is always evident.

Through tacit knowledge Bethany has come to realize the importance of doing well and achieving within educational settings. All of the teachers

believed that Bethany wanted to do well. The grade four teacher noted that “at the beginning of the year, she didn’t have patience for anybody who wasn’t doing what they were supposed to be doing. The music teacher commented on Bethany’s inner desire to succeed. “She can zero in and stay with it (a task) no matter how long it takes. She is very persistent.” Bethany spoke of the time she spends with a French tutor after school this year, “I go to a French tutor and it really makes a difference. Well, when I’m working the instructions are much easier to handle. I don’t want to give up French because I can handle it, just not working too much all the time in French.” Bethany’s brother Kyle commented on what a hard worker his sister is and then he added “ She’s a really proud person, I think she is going to grow up to be a really good person no matter what anybody says.”

Bethany has grown up in a family who’s lives have been wrapped and rolled within an allergic fabric. She knows of the days when her mom has come home from school sick and had to lie down on the chesterfield. She knows of the times when dad has had to go lie down in a dark quiet spot until he gets rid of his headache. She knows that her brother spends many of his days with a stuffed-up or runny nose and that his ears often get red when he is reacting to something. She is getting used to the feeling of nausea which often persists in her throat. She remembers her early days in school when she couldn’t do many of the things her friends did. “ I couldn’t do a lot of the activities that my friends would do. They liked to run, they would run a lot but I couldn’t... . Well I could, but if I did I would need my puffer or a mask. She has gained tacit knowledge about why she feels better in school this year. “I’m not in a classroom that has mold or cobwebs anywhere, I’m not in a

classroom that's dusty like the one I was in before. It's not dirty. It's not dusty."

A multitude of perceptions have melded with hegemonic forces to develop Bethany's self concept as a learner. A few of these factors include the role of self-fulfilling prophecy, the belief systems of modelling members including teachers and parents, the influence of teacher/parent expectations, her level of socioeconomic status to name just a few. These multi-layered forces have become intertwined with the physiological aspects of learning for Bethany and have shaped the essence of her self-concept as a learner.

Chapter 10

Discussion

The story that unfolded through this inquiry, tells of one child and her family. It delves into the difficulties this family has encountered from personal, physiological and educational perspectives. From the data collected during this process, I would argue that:

- * the physiological aspects of learning for an allergic child become sociologically, and psychologically embedded and intertwined within environmental contexts.
- Learning is organic, complex and individualistic.
- * Perceptions are powerful learning catalysts or deterrents.
- * Self perceptions empower/disempower learners.

What can we do as educators to address the physiological needs of learners such as Bethany?

- 1) *We can address the possibility of the existence of the mind body connection.*

It would be overly simplistic to suggest that all of Bethany's difficulties can be directly correlated to her allergies; however, as Vass & Rasmussen state, "Because the brain is just as vulnerable as any other part of the body to the ravages of allergy, any child demonstrating learning, behavioral, or neurological disturbances of a chronic or recurring nature should be evaluated for the possibility of allergy" (p. 245).

To accept this statement would require a major shift in perspective for most educators. To accept that allergies may affect the brain, in the same way as any other area of the body may be affected would cause educators to re-evaluate belief systems. To believe that a child with allergies may be bright and intelligent but not able to function up to his/her ability because of an allergy related connection, would force educators to re-construct their role in the classroom. There has been an overwhelming amount of educational research over the past couple of decades, which has filtered into our classrooms altering our practice as teachers. The influence of society, the school and teachers on what a child holds as the truth about literacy has been studied over the last decade. (Harste, Woodward, and Burke, 1984). Gower and Scott's (1977) have delved into the forces that shape our classroom realities. They describe five realities that are present in any classroom (or for that matter, any human interaction) at all times: moral, political social, personal and information processing realities. Yet within this complex educational evolution and restructuring of our classrooms, the physiological connections to learning are most often absent from educational research.

Failing to broaden the view of knowledge and the way it is constructed has traditionally excluded the physiological side of learning from the higher institutions of education. Vass & Rasmussen (1984) state: "The omission during graduate education of physiological and biochemical imbalances that occur because of life-style factors such as diet, stress and environmental toxicity, leaves the counsellor with only partial answers to the puzzle of human behavior"(p. 247). Greater attention to the physiological aspects of learning during teacher training at universities would provide serve to raise the consciousness level of future teachers.

2) *We can reconstruct our ideology about the acquisition of knowledge.*

There is a direct relationship to the way in which we view the construction of knowledge to the way in which we conduct our practice in our classrooms. A child is educated not only according to the educational belief system in society at that time, but also according to the teacher's beliefs about how we acquire knowledge (Harste, Woodward & Burke, 1984). Margolis (1987) suggests that questions about learning will be misposed if the problem is taken merely as, "How did a person learn B?" For adult learners (educators) especially, the question should be, "How did he learn B, given the habits of mind on hand when faced with the problem?"(p.126). This inquiry invites educators to include, How did she/he learn B, given the habits of mind on hand and connections to the body (in this case influences of allergies/environment) when faced with the problem? Mac Neil (1986) addresses the fragmentation of knowledge as "the reduction of any topic to fragments, or disjointed pieces of information". The purpose of maintaining,

the passing down of fragments of information as the focal point of teaching practice "...avoids arousing discussion, and presents information in a manner that facilitates quantifiable testing (p.124).

Teaching styles which adopt fragmentation as the central purpose of teaching, however, exclude for the most part, an inclusive means of seeking more information about the individual differences in learning styles and needs for such children as Bethany. Our educational system, as it stands today, continues to focus on a reductionistic model. Remediation methods, for the most part continue to focus on identifying skills that children have not grasped. Fortunately many teachers continue to reflect on their own educational practices and strive toward creating democratic classrooms which celebrate the multiplicity of factors which influence learning.

3. *We can transform our roles from preachers to researchers.*

In a recent interview on the CBC radio station, David Suzuki referred to people with allergies and chemical sensitivities as "canaries in the coal mine". In a current issue of the American Journal of Public Health Newacheck & Taylor (1992) state, " The most commonly reported childhood chronic conditions included respiratory allergies (including hay fever) and frequent or repeated ear infections. Respiratory allergies affected 97 out of every thousand children and 83 out of every thousand children experienced repeated ear infections. Other relatively common conditions included asthma, eczema and skin allergies, frequent or severe headaches and speech defects"(p. 365-366).

Cuban (1986) suggests, revising practice in the classroom is a matter of

changing belief systems. Salmon (1988) points out that although teachers inhabit their own personal world, psychological meanings must, if they are to be viable, be built together with others. Human growth depends on a shared social perception of reality. The sense we make of our lives must also make some sense to others. And since human realities are, first and foremost, *social* realities, personal meanings carry their essential meaning in relationships between peoples rather than within some private world. Demystifying the research process is the first step in decoding and demythologizing the way knowledge is created. It helps make research skills accessible who those who need them and enable us to develop a better understanding of the actual social relations that are broadly labelled ideology or culture. (Smith, 1984.)

Teachers have the opportunity to work together to pioneer the construction of knowledge surrounding the mind body connection. Inquiries such as this story about Bethany, invite other teachers to become part of the research process, to learn more about the connections which allow children to and prevent children from learning in our classrooms in unique ways. This process is not likely to occur from the “top-down” nor will it totally occur from the “bottom-up”. The change has to come from both directions.

Educational change has to occur by teachers deconstructing and reconstructing the lense with which they view themselves. We need to know more about the unique ways in which children learn, as well as the connections and interconnections between physiological issues such as allergies and learning. Kirby & McKenna (1989) point out that major institutions, such as the media, schools, colleges, universities and

government agencies, interpret and chose facts in such a way as to enable them to paint an image of the world that suits their own needs. As a result, the interpretations and facts that exist in the public record are restricted and exclusive.

Teachers have the power to shift their perception from focusing on weaknesses to looking for strengths in individual learning styles and systems. Teachers viewing themselves as researchers through an alternative lens can allow for such powerful transformations to occur. We as educators are able to change how knowledge is constructed and how learners view themselves. Cuban (1986) suggests change has to occur by "Getting professionals to unlearn in order to learn". (p.109) Many of us as teachers continue to embrace the "truth" about teaching/learning as it has been passed down to us from "those who know" devaluating what we have come to learn through experience about the children in our classrooms. Some of us have fallen into the routine of not questioning that which has never traditionally been questioned. We are willing to accept that allergies can give children a runny nose or watery eyes but are not quite ready to address the possibility of allergies causing certain parts of the brain to swell. Lester and Onore (1990) write, "genuine learning or change comes from questioning or reassessing our existing beliefs about the world"(p. 41).

Teaching by its very nature is individual, unpredictable, and fluid. We often devalue our role as professionals. We are able to observe details, collect data, sift for common threads, connections and interconnections to allow for interpretative analysis. Such research in turn acts to shape our perceptions and our teaching /learning in the future. Interactions with

parents, educators and medical professionals could allow for a more open and fluid educational system to emerge. An educational system which would allow more of the children who are presently getting lost between the cracks to learn in unique ways. A system which would support and celebrate individual ways of knowing / learning. Such a system would point the way toward further educational research in such areas as the mind body connection.

4. *We can continue to critically scrutinize and reshape our methods of evaluating, reporting , assessing and testing our students.*

Traditionally children who don't fit into the "boxes" which we label as "normal" as forced to change in order to fit in or be accepted. Sapon-Shevin (1989) notes, "This approach legitimates behavioral and medical management techniques which attempt to "fix" the child"(p.92). There is evidence which indicates that we as educators should be cautious of the tests we request to assist in evaluating our students, citing several sources Gartner and Lipsky (1987) state, "more than 80 percent of the student population could be classified as learning disabled by one or more definitions presently in use"(p. 373). Philpott & Kalita (1980) address their concerns in the area of misdiagnosis "how many children have been misdiagnosed as hyperactive, aggressive, behaviorally disordered or schizophrenic without being tested for allergies?"

Much of our evaluation today is deficit driven. In a reification of the medical model upon which the process is based, the students difficulties are reduced to a set of symptoms to be diagnosed. The goal of the diagnosis

becomes the delineation of the specific deficits within the student. (Poplin 1988)

Questioning our assessment and evaluation practices allows us to get closer to what is of fundamental importance to us in our classrooms. Asking ourselves questions such as the following, plays an integral role in the way we shape our teaching practice:

What are some of the underlying physiological, sociological, psychological and environmental factors that may influence this child as a learner?

What am I saying or doing that influences how this child sees himself/herself as a learner.

Are my choices of evaluation benefiting or harming this child as a learner?

What tools can I use to uncover some of this child's learning strengths. How can I better develop learning strengths to allow the child to better cope with weaknesses?

Things which matter most must never be at the mercy of things which matter least. (Goethe)

Conclusion

Bethany and her family may not be a typical allergic family; however, I believe they are not atypical either. While a certain child may present as lethargic, spacey and not able to make connections, another child with a similar allergy history may present as being over active, disorganized, and not able to work up to his/her potential. Allergies by their very nature are elusive, invasive and individualistic.

Although allergies have been a well known medical phenomena for decades, recent medial and educational research indicates allergies can cause such reactions as hyperkinesia, irritability, attention span and restlessness (Pearson & Long , 1982; Vass & Rasmussen, 1984; Glines et. al., 1983). Friedman and Doyle indicate there is a higher incidence of a number of different allergies in children with ADD. Director of the Toronto Learning Center, M. Kravitz (1982) believes there is a frequent detection of significant allergies with learning disabled children. Despite the increasing research in this area, the links between allergies and learning continue to be very controversial.

In the case of Bethany's story, the data collected, (narrative accounts) of Bethany's family and learning experiences may not be generalizable to the larger population of children with allergies, but an ethnographic case study does not aim to present generalizable findings. Rather, Bethany's story and the connections it makes to the stories of other allergic children will provide a holistic perspective on the struggles of one allergic child and her family within educational, medical, personal and environmental contexts. Such stories are important in education ~~where~~ a holistic perspective is only recently being recognized; they are even more important in medical research where allergies, for the most part, continue to be viewed as isolated and individual pathologies.

A Spark of Light

A spark of light

**Which perseveres,
Is worth kindling,
Until the flame
within,**

**Ignites....
to possess
the mind,
the soul.**

Lighting...

guiding...

forever exploring...

endless possibilities...

Bibliography

- Allergy overview for the 90's (1993, April) Health News, 5-9.
- Ashford, N., & Miller, C. (1989, December). Chemical sensitivity. (Executive summary: Report to the New Jersey State Department of Health). New Jersey.
- Baker, B. M., & Baker, C. D. (1980). Difficulties generated by allergies. The journal of school health, 50, 583-585.
- Bissex, G., & Bullock, R. H. (Eds.). (1987). Seeing for ourselves: Case-study research by teachers of writing. New Hampshire: Heinemann Educational Books Inc.
- Bruner, J. (1986). Actual minds, possible worlds. Cambridge, Mass.: Harvard University Press.
- Barkin, B. (1981). Activities ideas definition strategies, Learning disabilities: A book of resources for the classroom teacher. (ERIC Document Reproduction Service No. ED 214 358).
- Carr, W., & Kemmis, S. (1986). Becoming critical: Education, knowledge, and action research. Philadelphia: Falmer Press.
- Chomsky, N. (1981). Radical priorities. Montreal: Black Rose Books.
- Crews, C. (1989, August). Effects of food products on behavior,

learning abilities and social relationships in preschool and elementary school children. Paper presented at the Research Colloquia, Issues in Education. Murray, KY. (ERIC Document Reproduction Service No. ED 312 064.

Crook, W. G., & Stevens, L. (1987). Solving the puzzle of your hard to raise child. New York: Random House.

Cuban, L. (1984). How teachers taught: Constancy and change in American classrooms, 1890-1980. New York: Longman.

Cuban, L. (1986). Teachers and machines: The classroom use of technology since 1920. New York: Teachers College Press.

Dewey, J. (1938) 1963. Experience and Education. New York: Collier Books.

Drugs, dialogue and diet: Diagnosing and treating the hyperactive child. Social Work 33 (1988) (4), 351.

Ezkovich, J. (1989, August). Allergy and asthma, Science tracer bullet, 2-12. (ERIC Document Reproduction Service No. ED 314 413).

Feldman, R. B., & Carroll, D. (1986). The complete book of children's allergies: A guide for parents. Toronto: Random House of Canada.

Fisher, T. M. (1987). Allergens in the lab. Science-teacher. 54, 40-43.

Freire, P. (1973). Education for critical consciousness. New York: Seabury Press.

Freire, P. (1985). The politics of education. South Hadley, Mass: Bergin and Garvey.

Freudenberg, N. (1980). The impact of bronchial asthma on school

attendance and performance. The journal of school health, 50, 522-526.

Friedman, R., & Doyal, G. (1987). Attention deficit disorder and hyperactivity. Danville, IL.: The Interstate Printers and Publishers.

Gershwin, E. M., & Klingelhofe, E. (1989). Conquering your child's allergies. Don Mills, Ontario: Addison Wesley Publishing Company Inc.

Glines, D., & McGovern, J. (1983). Hidden allergies hamper students and staff. Educational-leadership, 40, 59-63.

Glines, D., & Rapp, D. (1988). Allergies and problem students. Health education, 19, 34-38.

Gower, R.R. & Scott, M.B. (1977). Five Essential Dimensions of Curriculum Design. Dubuque, Iowa: Kendall Hunt.

Greenlee, K. M. (1983). An annotated bibliography of identifying and meeting the needs of the student with chronic health problems. 1983. (ERIC Document Reproduction Service No. ED 256 714).

Hammersley, M., & Atkinson, P. (1983). Ethnography, principle in practice. New York: Routledge.

Hime, K. (1982). Shock and anaphylactic shock. (Learning Activity Package). Bureau of Publications, California Dept. of Education, P.O. Box 271, Sacramento, CA 95802. (ERIC Document Reproduction Service No. ED 220 706).

Johnson, H. C. (1988). Drugs, dialogue, or diet: Diagnosing and treating the hyperactive child. Social work. 33, (4), 349-355.

Kirby, S., & McKenna, K. (1989). Experience research social change - methods from the margins. Toronto: Garamond Press.

- Kravitz, M. (1982). The inconsistently learning disabled child: Identification and management of inattention and some forms of hyperactivity. Special education in Canada, 56, 26-32.
- Krohn, J., & MacLarsen, E., & Taylor, F. A. (1991). The whole way to allergy relief and prevention. Vancouver: Hartley & Marks Publishers.
- Lester, N. B., & Onore, C. S. (1990). Learning change. Portsmouth, N.H: Boynton/Cook Publishers.
- Margolis, H. (1987). Patterns, thinking, and cognition: A theory of judgement. Chicago: University of Chicago Press.
- McNeil, L. (1986). Contradictions of control: School structure and school knowledge. New York: Routledge & Kegan Paul.
- Mishler, E. (1986). Research interviewing: Context and narrative. Massachusetts: Harvard University Press.
- Moyer, K. E. (1975). The physiology of violence: Allergy and aggression. Psychology today, 9, 77-79.
- Neilsen, L. (1989). Literacy and living: The literate lives of three adults Portsmouth, N.H: Heinemann Educational Books, Inc.
- Neilsen, L. A teacher's joy: The schooling of a writer. Unpublished manuscript, University of New Hampshire.
- Newacheck, P. W., & Taylor, W. (1992). Childhood chronic illness: Prevalence, severity and impact. American journal of public health, 82, 364-71.
- Pearson, J. E., & Long, T. J. (1982). Counsellors, nutrition, and mental health. Personnel and guidance journal, 60, 389-92.
- Pertz, D. L., & Putnam, L. R. (1982, January). What is the relationship between nutrition and learning? Paper presented at the annual

health. Personnel and guidance journal, 60, 389-92.

Pertz, D. L., & Putnam, L. R. (1982, January). What is the relationship between nutrition and learning? Paper presented at the annual meeting of the parents and reading conference, New York, NY. (ERIC Document Reproduction Service No. ED 220 797).

Pharmacology and Toxicology of Amphetamine and Related Designer Drugs. (1989). (Report No. NCADI-M-94).

Philpott, W. (1982, March). Organic determinants of learning and behavioral disorders. Paper presented at the Annual International Conference of the Association for Children with Learning Disabilities Chicago, IL. (ERIC Document Reproduction Service No. ED 221 993).

Philpott, W. H., & Kalita, D. K. (1980). Brain allergies. New Canan. C.T. Keats.

Popin, Mary S. (1988). The reductionistic fallacy in learning disabilities: Replecating the past by reducing the present. Journal of learning disabilities. 21, 389-400.

Randolph, T. (1989). Alternative approach to allergies. Toronto: Harper and Row Publishers.

Rapaport, H., & Flint, S. (1976). Is there a relationship between allergy and learning disorders? The journal of school health, 46, 139-141.

Rapp, D. (1979). Allergies and the hyperactive child. New York: Sovereign Books.

Rapp, D. (1980). Allergies and your family. New York: Sterling Publishing Company.

Rapp, D. (1986). The impossible child, in school and at home: A guide for caring teachers and parents. Buffalo, New York:

unrecognized allergies. New York: William Morrow and Company, Inc.

Rea, W., & Ross, G. (1989 September). Food and chemicals as environmental incitants. Nurse Practitioner, 14 (9).

Reason, P., & Rowan, J. (1981). Methodological approaches to social science. In P. Reason & J. Rowan (Eds.), Human inquiry (pp. 43-51). New York: John Wiley and Sons.

Royster, M. (1983). Student nutrition, learning and behavior. (ERIC Document Reproduction Service No. ED 241 136).

Salmon, P. (1988). Psychology for teachers: An alternative approach. London: Hutchinson.

Saphier, J. & Gower R. (1987). The Skillful Teacher- Building Your Teaching Skills. Massachusetts: Research for Better Teaching, Inc.

Seidman, I. E. (1991). Interviewing as qualitative research - A guide for researchers in education and the social sciences. New York: Teachers College Press.

Simon, G. E., Daniell, W., Stockbridge, H., Claypoole, K., & Rosenstock, L. (1993). Immunological, Psychological, and Neuropsychological Factors in Multiple Chemical Sensitivity. Annals of internal medicine. 19. 97-103.

Smith, D. (1987). Textually mediated social organization. International social science journal. 36 (1), 59-75.

Spradley, J. (1980). Participant observation. Toronto: Holt, Rinehart and Winston.

The diet behavior connection. (1983, August). Science news, p.125.

Vass, M., & Rasmussen, B. (1984). Allergies: The key to many childhood behavior abnormalities. Elementary school guidance and counselling, 18, 242-50.

Van Manen, M. (1990). Researching lived experience: Human science for an action sensitive pedagogy. London, Ontario: The Althouse Press.

Weiler, K. (1988). Women teaching for change. New York: Berginand Garvey Publishers.

Winter, R. (1989). Experience principles and practice in action-research. New York: The Falmer Press.