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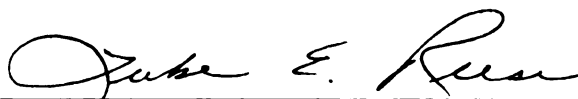
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REFLECTIONS OF LEARNERS IN AN ONLINE ENVIRONMENT: ATTEMPTING

TO APPLY LEARNED KNOWLEDGE AS PART OF A WEIGHT MANAGEMENT

PROGRAM

By

Melissa Tolan-Halleck

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ABSTRACT

REFLECTIONS OF LEARNERS IN AN ONLINE ENVIRONMENT: ATTEMPTING TO APPLY LEARNED KNOWLEDGE AS PART OF A WEIGHT MANAGEMENT PROGRAM

By

Melissa Tolan-Halleck

Weight management after a weight loss continues to be a health challenge for many individuals. The concept of internalizing or applying the knowledge that has been learned is difficult. This is what is often referred to as weight management success or living a healthy lifestyle. The online learning environment can offer new avenues for this style of learning. This qualitative research study is grounded in three key areas; 1) distance or online learning can compliment traditional behavioral interventions for weight management success and the application of learned knowledge, 2) learning style can effect the learning process in which weight management efforts take place and 3) cognitive behavioral therapy is an appropriate intervention for weight management success. These concepts are looked at after an in depth review of the literature and after interviewing participants in an online learning environment as part of a weight management program. Concepts are clarified and recommendations are made regarding a supplemental online learning environment to apply the knowledge learned for weight management success.

TABLE OF CONTENTS

LIST OF TABLES

Chapter I

Introduction

The Context

Technology enhanced learning continues to grow rapidly, especially with the many individuals who use the Internet. This growth is due in part to the popularity of communication via the web, but also influenced by the learner's need for convenience and flexibility. Many universities are turning toward distance education as a low-cost way to offer traditional courses, generate excitement and appeal to a wider array of students, often the non-traditional student. The non- traditional learner appears in many venues, including the community education setting or group behavior therapy. The non-traditional learner or sometimes referred to as the adult learner is often self-motivated, which as will be described later, is a positive attribute for a distance learner. While the use of the Internet for social communication is readily apparent, the degree to which the Internet can facilitate learning is largely open to question (Warf, Vincent and Purcell, 1999). On-line distance education is often associated with problems of high attrition rates, maybe related to the lack of face-to face time and too much focus on the technology or the electronic connection which therefore can affect learner motivation and encouragement (Garland, 1993).

Supporters of distance learning claim that collaborative learning and working in learning communities can diminish some of the feelings of isolation that may lead to this attrition (Eastmond, 1995). Learning communities are small groups that are formed collaboratively. Furthermore, learning communities allow the learners to establish

1

mutual ties, which provides a support system, enhancing the learners commitment to learning for both self and peers within the knowledge community (Palloff & Pratt, 1999).

This commitment for learning is an important aspect in the weight management community. The problem of obesity in our country today is at a critical stage with an estimated 25% of the United States population being obese (Kuezmarski, 1992). These conditions substantially increase the risks of morbidity and mortality as well as social stigmatization and discrimination. As a major cause of preventable death in the United States, obesity poses a major public health challenge. For the purpose of this study, the non-traditional adult learner will be an individual who is involved in a structured behavioral weight management program. There are many treatment options for obesity. However, behavioral therapy methods for weight management have shown the most positive improvements in long-term obesity treatment outcomes. Extended treatment shows that the longer the behavioral therapy program, the better the long-term weight-loss outcome compared to standard treatment (Wadden, Foster, & Letiza 1994). However, follow-up data suggests that after extended treatment ends, adherence diminishes and individuals begin to regain their weight (Perri, 1998). Increasing social support and incorporating problem solving techniques has demonstrated significantly greater weight reduction and higher rates of treatment completion. (Wing, 1989). Sbrocco, Nedegaard, Stone & Lewis (1999) make the proposition that outcomes and goals concerning weight and food extend well beyond the external factors of caloric intake. Self-esteem and social acceptance must be part of the long -term outcomes. These claims can lead to the presumption that distance or online learning could enable patients and counselors to have more therapy time, which could allow for an increase in

support and the feasibility of incorporating problem-based learning. The use of distance learning could enable health professionals to extend patient to therapist contact at a minimal fee and allow for more self-motivated interactions of the individuals in treatment.

<u>Purpose</u>

Because adults are involved in behavioral treatment to bring about some sort of change, they are gaining new knowledge. Webster's dictionary defines knowledge as, having experiences. Adults have many experiences therefore their potential for learning collaboratively, the sharing and negotiating of one anothers' knowledge, will be explored. There is little evidence available to support the use of online learning as a compliment to the traditional multi-disciplinary approach to weight management. However, with the prevalence of obesity on the rise and long-term weight management outcomes continuing to be poor, there is a need to improve current weight management treatment processes. The focus of this research will be to better understand learners' experiences with an online environment and how these experiences affect the learners application of learned knowledge. This study will attempt to gain an understanding of individuals' reflections of an online learning environment as part of a weight management program.

The research is grounded in the areas of online learning, collaborative learning and cognitive behavioral therapy for weight management success. These concepts will be reviewed in great detail in chapter two.

Definition of Terms

Face-to-face learning - Learning in the traditional style with an instructor and learners in a classroom or same geographical location

Asynchronous learning- Learning that can occur at anytime and at irregular intervals, meaning that individuals can communicate online without scheduled interactions (Palloff & Pratt, 1999).

Forums- A public discussion of questions and sharing of common interests (Allee, 1984).

Sense of Engagement- The connectedness and motivation a learner feels toward their behavior change/ learning and the self-efficacy that this new lifestyle is sustainable

Transformative Learning- Learners change their meaning schemes (specific beliefs, attitudes, and emotional reactions) and to do this they must engage in critical reflection on their experiences, which in turn leads to a perspective transformation. This perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world, by changing these structures of habitual expectation to make possible a more inclusive, discriminating, and

integrating perspective. These meaning structures are frames of reference that are based on the totality of individuals' cultural and contextual experiences that influence how they behave and interpret events

Collaborative Learning- Learners negotiate from one knowledge group to another. This occurs by joining a transition support group on the way to a final goal. Joining the transition group is the process by which collaborative learning occurs (Bruffee, 1999).

Knowledge Community- A group of people with similar interests and goals that constitutes membership by a certain language (computers, literacy, mathematics, church etc.). There is an interdependence between group members, for this is how we define knowledge (Bruffee, 1999)

Acculturated- Full fledged, competent members of some community or knowledge group (Bruffee, 1999).

Weight Management- Adherence to the lifestyle and practices that will enable an individual to stay at a healthy weight.

Cognitive Behavioral Therapy- A treatment used for weight loss and maintenance, based on the conceptualization of the process that maintains the problem in question (Wadden & Stunkard, 2002).

Chapter II

Review of Literature

Conceptual Framework

The purpose of this chapter is to review research and literature that relates to learning style of the adult or non-traditional learner, the components of an online learning environment and cognitive behavioral therapy for weight management success.

The sample population to be studied and assumptions made are of the non traditional and/or adult learner. The constructivist view will be the foundation upon how this occurs. The following assumptions are made of constructivism by Guba and Lincoln (1989) truth is a matter of consensus among informed constructors, not of correspondence with objective realities, facts have no meaning except within some value setting, hence there are no objective assessments of propositions. Phenomena can only be understood from the context in which they are studied and generalizations are not made from one situation to the next. The experiences that individuals have are what construct their knowledge and the non-traditional learner typically has accomplished many life experiences. Drawing on the insights of theorist and researchers, the study will be grounded in the following concepts.

1) The components of online learning can compliment the non- traditional style of learning as well as provide an environment for weight management support and the application of learned knowledge.

Online Learning.   Online learning is really still in its' infancy when looked at in its' entirety. New programs and technologies are being developed every day to simulate the most prominent features of a face-to- face classroom. A face-to-face classroom allows for learners and teachers to be present in the same geographical location. What kind of affect does the absence of the face-to- face contact have on an individual's learning experience? Is this adversity outweighed by the many positive attributes of online learning?

A large portion of distance or online learning research has focused primarily on a comparison against the traditional style of learning. The basic research question has often been asked, "Is distance education as good, or better than, traditional education?" As noted by Saba (1998) this type of comparative study fails to adequately define 'traditional' or 'distance' education.

According to the constructivist learning theory teachers become guides rather than dispensers of knowledge and more emphasis is put on the role of the student in constructing knowledge. Thus, geographical distance becomes irrelevant, and technology is only a factor in its' ability or inability to facilitate communication and help learners construct knowledge (Saba, 1998).

A significant development in the growth of information technology has been the use of computers for personal communication. Assuming all parties are connected to the Internet, people can now communicate via email, bulletin boards or chat rooms. The level of intimacy that can be present with computer communication is widely disputed as well as the definition of intimacy. (Darlega & Margulis, 1983; Durham, 1988) discuss

7

intimacy as the amount of self-disclosure in a relationship. Many studies have shown that when one person strategically releases more personal information the other person is led to respond with equally increased levels of intimacy. The option to be anonymous with online learning has shown to increase the level of sharing, in particular intimate, personal information. In a study of student collaboration online, Oliver, Omari and Herrington (1998) found that students who were acquainted displayed a strong level of collaboration and cooperation. Van Gelder (1996) has argued that it is the absence of seeing the other person that increases the degree of intimacy. She contends that the most important thing about the person is not their sex, race or gender, but their mind. She has experienced people having a higher degree of intimacy when using computer communication versus 'real life'. This concept relates to the phenomenon that it is easier to talk to a stranger in the form of a counselor then someone who was known previously.

As the research continues to unfold along with her personal experiences as an educator it becomes more clear that for online learning to be optimal the learning and instructional strategies that are known as the norm need to be redefined.

In order to support learning as a knowledge building process, learning environments should allow for context, collaboration and practice to co-exist (Barab & Duffy, 2000). The online learning environment can be an ideal place for this to occur. Relevant discussions that occur online in a group setting and encourage problem solving can be an ideal learning environment. As a learner's sense of motivation is elevated the potential for sustaining new behavior change increases.

Palloff and Pratt (1999), describe transformative learning as the unexpected result of the online learning process, an internal motivation to continue learning. Intellectual

growth is expected when enrolling in a course, but personal growth is not necessarily the reason students engage in the process of online learning. Mezirow (1990) states that transformative learning occurs when learners encounter what he describes as a disorienting dilemma - a dilemma that causes the learner to critically assess the nature and the use of knowledge, belief systems related to power and social relationships. This encounter can cause anxiety and inaction within the learner. Therefore, group support becomes very important. By simply getting involved in an online class, a learner can immediately encounter a disorienting dilemma. This is an environment in which participants are expected to engage with the material, each other and the instructor in a completely different way. Therefore the online classroom can be an ideal foundation for transformative learning. Personal growth becomes a companion to intellectual growth as the learner assumes more responsibility for the learning process and moves from student to reflective practitioner.

According to social constructivists, learning is a social construct, which is interposed by language via social exchanges (Vygotsky, 1978). The online community can easily be established as a supportive environment that is inviting to collaboration, social exchange and construct. The online environment is a community that allows for open communication, social reinforcement, information exchange as well as the opportunity to increase self-esteem and self-efficacy. The internal source of motivation is then stimulated and may improve a learner's sense of satisfaction and achievement (McIsaac & Gunawardena, 1996).

Computers, telephones and video conferencing can all be considered forms of distance communication in that you are not meeting face-to- face. A study evaluating

the effectiveness of telephone counseling revealed that most telephone counseled clients had not sought out previous counseling or information. It seems that clients are willing to use and respond positively to counseling when the counselor is at a distance, not face to face (Iscoe, Hill, Harmond, & Coffman, 1979).

Despite the rapid growth of online learning programs, many challenges must be faced. If the focus with educators is to transmit information they are likely to leave learners feeling isolated and unmotivated, leading to procrastination and eventually attrition (Garland, 1993). For effective learning, the material or the message must be contextually relevant, problem based and perceived as valuable to the learner's present situation (Meerriam & Cafarella, 1999). Contextual learning is a process where the learning is tightly bound to the environment and circumstances surrounding the learning. Hansman (2001) describes when content is learned within contexts that are meaningful and relevant to the learner, their motivation, interest and achievement improves dramatically. Integrating content to real world experiences in an online environment can be a challenge in itself. An online environment defined by structure and planned communication may not allow for the spontaneity needed to respond to emerging contextually relevant issues. Therefore allowing free discussion becomes very important, but not at the expense of inadequate feedback and guidance to provide engaging topics for discourse. Ethical issues of confidentiality, inadequate counselor intervention, over zealous behavior of online learner's secondary to their anonymity and equality of Internet access are more challenges for the use of on-line learning (Sampson, Kolodinsky & Greeno, 1997).

The gap that is most evident in distance learning is that between technology and learning. The gap diminishing relies on the instructor's ability to modify the teaching to fit the learner's needs for learning. For instance research has proven that for adult learning to be meaningful it needs to be contextual and relevant. Through my work as a adult counselor and educator I take the role as the facilitator, this role allows for the learner's to feel empowered and for their life experiences to become a part of the learning process. Hirshbuhl, Zachariah, & Bishop, (2002) note in their research that the widening gap in distance learning between the learner and technology is happening for two reasons; 1) Students and teachers are having difficulty shifting their teaching and learning paradigms, and 2) The inability of students and teachers to deal with technology-related problems. This gap widening also can be attributed to high attrition rates.

When this paradigm shift occurs with learners and teachers an optimal experience can occur. A study was done by Hirshbuhl et al. (2002) with a graduate class in instructional design. The outcomes indicated that students need very clear, concrete examples of what is expected and weekly assignments must be evaluated by the instructor; there must be a high level of interaction and appropriate feedback. The research survey showed that students collaborated more with each other and enjoyed the collaboration in comparison to the traditional campus-based courses. Students reported that they enjoyed the increased communication of the online course. Data also displayed students spending more time working on the course; this was partially due to the out of class meetings as well as the variable times that students post messages through out the day (Hirshbuhl et al., 2002).

2) Learning style can affect the learning process in which weight management efforts take place. Therefore, collaborate and transformative learning will be explored. According to Webster's Dictionary, collaborative is to labor together to act jointly and transformation is to change of outward by an inner nature (Allee, 1984). Therefore collaborative and transformative learning can be viewed as occurring jointly or together and coming from the inner to bring about change to the outer. This type of learning would be most feasible in a group and could have a significant effect on an individual's personal knowledge and growth. In turn, personal growth could have a significant affect on self-efficacy and self-worth.

Collaborative learning. The conceptual framework will build support for the claims of online collaborative learning as a means for enhancing an individual's personal knowledge and growth. The theory that a learner's self-identity is pivotal in the ability to integrate into the learning environment/ community will be explored (Mezirow, 1991; Tinto, Goodsell-Love, & Russo, 1994). In other words, social functioning is a key to the learning process. Collaborative learning is once again defined by Bruffee's (1999) theory of learning as representation of renegotiating from one knowledge group to another, which occurs by joining a transition support group on the way to a final goal. One learner describes an experience with collaborative learning as each of us began to change and we were learning, not from the books we were reading but the influences and discussions that occurred in the group (Bruffee, 1999).

This style of learning has a strong social response: it is through this negotiating with others that learning occurs. The gaining of membership into a learning community

or group of individuals with a specific level or type of knowledge happens by joining a transition or support group on the way toward the final goal. Group work or discourse between individuals whether online or face-to-face becomes very important for the building of knowledge to occur between individuals.

Group work with collaborative work is more then cooperatively working together, it is the gaining of knowledge with and through others, it places much emphasis on the process rather then the end product. There are five phases for collaborative learning that Yeok-Hwa (1998) refers to as: engagement, exploration, transformation, presentation and reflection.

The engagement phase is important for learners to take ownership. The facilitator sets the stage by providing a collaborative activity. The exploration phase allows learner's to take stock in what they already know, what they hope to learn and how they will share what they have learned with others. The third phase deals with transformation of knowledge. This is where learners engage in activities as a group to reshape the information by organizing, clarifying and elaborating. It is critical at this stage of the learning for all group members to contribute. It is easy to allow the most assertive voice to take over, which can inhibit other group members from learning. Online group discussions may help prevent this by allowing all voices to be heard. Asynchronous interactions are those that do not take place in real time, this type of interaction allows learners to pace themselves and reflect before contributing to the discussion. This additional process time can prove beneficial for many learners. Presenting the knowledge is the next phase. The audience receiving the presentation should be authentic which allows for appropriate feedback and responsiveness. This can be done with a peer

group or a professional group with a genuine interest in the findings of the presentation. Sharing information gained with peers is an effective motivational strategy for learners, this sharing can occur asynchronously online or face-to-face. The last phase is most important for the individual gain of knowledge. Students reflect upon what they have learned while identifying strengths and weaknesses in the learning process both individually and collaboratively. As stated earlier, an online -asychronous environment can be an ideal space for reflection and discussion.

There is much research to support this description of the collaborative learning process. Merriam & Caffarella (1999) state that to be effective, adult learning must be contextually relevant, problem based and applicable to the learner's current or desired lifestyle. Stated similarly by Dewey (1938), education is not to learn merely to acquire information but rather to bring that learning to bear upon our everyday actions and behaviors. Consistent with this goal, collaborative learning can prepare learners to be critical thinkers and acquire the skills that are necessary to be effective participants in their personal and professional communities (Yeok-Hwa, 1998). A main feature of collaborative learning is discussion and it is through this discussion that learning occurs (Golub, 1988). These ideas supplement some of the objectives for successful weight management interventions, as will be discussed in more detail when cognitive behavioral therapy for weight management intervention is reviewed.

By allowing discussion and sharing to occur learners can begin to bring relevance to their learning. As Dewey (1938) points out, the philosophy of education is not merely to acquire information but rather to bear upon everyday actions and behaviors. The learning process becomes inseparable from the environment in which learning occurs.

Hansman (2001) agrees with this philosophy by further stating that when content is learned with a meaningful and relevant context the learners are more motivated, interested and achievement driven.

A recent study by Twigg (1994) reiterates this concept by defining most students as concrete- active learners, that is, they learn best from concrete experiences that engage their senses. Many teachers are attempting to improve their practice and the learning outcomes for students by incorporating active learning techniques such as working collaboratively on projects and participating in small group discussions.

Christiansen and Dirckinck-Holmfeld (1995) have speculated that the collaborative effort among learners can help them to achieve a deeper level of gained knowledge. For this style of learning to occur the environment should include a) a group of students with a shared goal for their learning process b) sharing of personally motivating problems and interests and c) dialogue as the fundamental way of learning.

Transformative learning. The ideas presented this far relate to the concepts of transformative learning, a phrase coined by Mezirow (1990, 1991) which refers to learning as reflection and the interpretation of experiences, ideas and assumptions gained through prior learning, a meaning making process which is rooted in the constructivist's theory. The theory of adults learning through transformation and their own individual experiences will be explored further (Mezirow, 1991; Tinto, Goodsell-Love, & Russo, 1994). Transformative learning is embedded in the way we communicate as human beings and is a common learning experience not necessarily associated with personal transformations. For transformative learning to occur learners need to become critical

and aware of their own as well as others' assumptions. Educators should take the role as the facilitator and assist learners in participating effectively in discourse. Discourse is necessary to validate the understanding of what and how one learns or to arrive at some contentment regarding a belief. Best described in this context, learning is a social process, and discourse becomes foremost to make meaning.

For learning to become meaningful, which then can enhance motivation and adherence to the process, it must be incorporated by the learner into an active process involving thought, feelings and disposition. This self-direction is best created in an environment in which learners become increasingly adept at learning from one another and problem solving in a group. Transformative learning is in essence the core of adult education. It becomes clear that an important goal of adult education is to help the individual learner become an autonomous thinker or an active learner, by learning to negotiate his or her own values, meanings and purposes rather then to uncritically take on those of others. Self-reflection or "turning back" also becomes important in this process. Becoming critically reflective of assumptions involves critiquing a premise of which the learner has. As described by Mezirow (1997) a dialog program brings learners together in a protected environment without an agenda, leader or task to be completed. A facilitator initially can help the group think collectively and share assumptions. Topics will emerge as participants begin to understand how others think and feel about common issues and one another. Learners begin to understand how their lifestyle, thoughts and expectations mold their experiences. (Mezirow, 1997) Through this review of literature the environment and style for which learning occurs can prove to be of vital importance to the learning process.

3) Cognitive behavioral therapy is an appropriate intervention for weight management success. Although behavioral therapy interventions prove to produce a greater weight loss then alternative treatments, there is a lack of research to demonstrate the long-term maintenance of the weight loss (Wilson & Franks, 1982). Obarzanek (2003) nutritionist for the National Health Lung and Blood institute and project officer for the Weight Loss Maintenance study states, " The Surgeon General, the Secretary of Health and Human Services, the medical community–everyone recommends that Americans maintain a healthy weight."

Cognitive behavior therapy for weight management success. Cognitive-behavioral therapy (CBT) is based on the cognitive conceptualization of the processes that maintains the problem in question. The focus on process allows for cognitive restructuring and for the individual learner to identify and change the target maintaining mechanisms. This process allows individuals to attempt new ways of behaving, test their expectations regarding the behavior change and evaluate through self- reflection. Cognitive behavioral therapy encourages learners to understand through experience how things could be different and why they would desire change in the first place (Wadden & Stunkard, 2002).

The following key strategies describe current behavioral treatment programs. Most programs use a team approach with behavior therapists, exercise physiologists and dietitians who lead groups and rotate based on the topic content. Self-monitoring, which includes writing down all calories consumed and activity expended on a daily basis, is

emphasized strongly with behavioral therapy interventions and is often thought of as a predictor of long term success (Wadden & Stunkard, 2002).

However, after reviewing the concepts of CBT and noting the continued poor outcomes for weight management success, as Perri et al. (1984) acknowledges, "The maintenance of treatment effects represents the single greatest challenge in the long-term management of obesity"- I can't help but think there must be more to it.

Monitoring only external factors doesn't encourage self-reflection and critical thinking to occur. Goal setting is a critical component in a CBT weight management program. Goals are both externally monitored as well as behaviorally focused. Short-term goals that are reasonable are emphasized. Nutritional aspects of weight loss are taught through lifestyle modifications and are often demonstrated in class. A key lesson, beyond the nutritional content in the food itself is how to accomplish this new style of eating or applying the knowledge learned. With exercise proving to be the single best predictor of long- term weight maintenance success, behaviorally based programs encourage an active lifestyle and learning the specific skills required to become more active. Stimulus control remains the hallmark of behavioral treatment programs, assuming that the environment controls the behaviors. However with more self-awareness and emphasis on the cognitive aspects of weight management the shift is focusing on individuals' thoughts and assumptions in order to defeat inappropriate eating behaviors. Problem solving allows individual learners to generate solutions, try it and then evaluate the effectiveness.

Cognitive restructuring is important but is often an abstract area for individuals to place emphasis. The dieting industry breeds many negative thoughts into the minds of

dieters. Therefore, for weight management to be successful these often irrational, negative thoughts need to be recognized and then countered with more positive self-empowering statements. Relapse prevention consists of recognizing a slip up as a normal part of the weight loss process. Situations are anticipated and plans are developed to cope appropriately, the idea is to prevent a lapse from becoming a relapse (Wing, 1989).

Wadden and Stunkard (2002) suggest that the disappointing long term results of behavioral weight maintenance may be attributed to two factors. The first is the neglect of considering cognitive factors as contributing to weight regain. The second is the ambiguity over treatment; weight loss vs. weight maintenance. This failure to stay engaged can be related to a progressive decrease in a patient's belief that they can reach a worthwhile weight goal. This is in response to the common decline in weight loss after 4-6 months of attempting to lose weight, and the realization that they will most likely not meet the unachievable weight loss goals or the other objectives they had hoped to achieve with their weight loss. This thought process often leads to decreased feelings of self-efficacy and confidence in their weight loss efforts. As a result, they abandon the strive for further weight loss. This then leads to undervaluing the weight loss they have achieved and a minimizing of any other gains they have made. In response to their analysis of weight regain, Wadden and Strukard (2002) recommend that weight maintenance include assisting patients to acquire, and then practice the behavioral skills and cognitive responses needed for effective weight control. This study will investigate this practicing and responding recommendation with the addition of online discussion forums, a form of supplemental support.

Through a series of experiments designed to isolate different weight maintenance approaches Perri et al. (1984) found that a combination of four strategies was most effective for maintaining weight loss: 1) continued professional guidance after weight - loss treatment 2) skills training to help individuals cope with high risk situations 3) structured physical activity, and 4) social support from friends or family.

Another study by Mustajoki & Pekkarinen (1999) concluded that weight regain is not distinctly relative to consistent patient to therapist contacts after treatment. Rather, it is recognized that the ability of subjects to take responsibility for their lives might be a better predictor for successful maintenance than continuos therapeutic contact or the prescribing of exercise and diets.

Perri, et al. (1984) evaluated the effectiveness of a multi-component program designed to enhance the maintenance of weight loss. This multifaceted program of post treatment strategies followed the recommendations of Stuart (1980). Weight maintenance programs should include the following: continued self-monitoring of positive behaviors, frequent post-treatment client to therapist contacts, and active client participation in self-help groups. The multi-component program vs. therapist booster sessions demonstrated positive effectiveness. The major observation of this study is that a program of post treatment social support and client-therapist contacts significantly enhanced the maintenance of weight loss. The findings of this study support the current obesity treatment literature in recommending longer initial interventions followed by a maintenance program offering continued therapist/ participant contacts. Novartis, the maker's of *Optifast®* a liquid formula used for very low medically monitored calorie levels, encourages a behavioral component of therapy as well as ongoing contact with

participants. Ninety five percent of former program participants needing staff support, peer support and self- monitoring are not engaged. These individuals are at high risk for weight regain (*"Regional Meetings,"* 2000).

As discovered in the review of literature related to online learning, collaborative and transformative learning as well as cognitive behavioral therapy new methods may exist for engaging individuals in their long-term weight management success.

Chapter III

Research Design and Methodology

Method

Research Question

1) What are the reflections of learners in a supplemental online environment in regards

to applying the knowledge learned as part of a Weight Management Program

Firestone (1987) states that, "qualitative research is rooted in a phenomenological

paradigm which holds that reality is socially constructed through individual or collective

definitions of the situation."

This study was conducted using qualitative research methods. The *individual or*

collective definitions of the situation that Firestone discuss are the basis for this

qualitative research study which concerns an understanding of the phenomenon, gaining

support and increasing self-efficacy for adult learners in an online environment as part of

a weight management program.

The qualitative research design includes using criterion sampling to identify particular

self- motivated learners. All individuals who met the criteria will be mailed a letter of

invitation to participate in the study. Participants who volunteered to participate were

called and an interview was set up. The six interviews were held over a two-week span.

The interviews were held in an area that was comfortable and convenient to the

interviewee. Interviews were audio- taped and an interview guide with open -ended

questions was used. Each interview was about 30-90 minutes in length. The audio-taped

interviews were transcribed the following week. The transcriptions were read through as

soon as possible, to allow the researcher a sense of freshness since the actual interviews

(within two weeks from the last interview). After the initial read through of the transcriptions, themes began to emerge. A table of codes was developed to explain the data and how it was emerging. This table was also used to gain inter-rater reliability. The code table and the transcriptions were provided to an unbiased researcher and was checked for reliability of emerging themes. Contact summaries and narrative displays were developed to continue compiling, organizing and minimizing the data collected. The organizing and analyzing of the data was done over 2 weeks. The last phase of analysis was to do member checking. Each interviewee received a copy of their contact summary and they were asked to reply with a confirming or dis-confirming response. This allows for increased validity of the data that is collected.

Interviews help the researcher understand the experiences of learners in an online environment who are attempting to maintain healthy behavior change. Respondent feedback helps the researcher to make assumptions and recommendations for an effective online environment to supplement the learning and interactions of individuals who are participating in a weight management program.

The constructivist theory and the ideas of Firestone are similar in that knowledge is built through experience. The researcher's epistemological views run parallel to this concept, therefore, it makes most sense that the data for this project was collected and analyzed using qualitative methods. The research question is asking to gain knowledge through learners' reflections while they are participating in an online discussion board and attempting to apply knowledge learned.

The topic of weight management success is baffling the psychology and the medical arenas with poor outcomes in the research. This research study is beneficial to

gain a thorough understanding from the voices of individuals who are amidst this battle

(Wadden & Stunkard, 2002). Qualitative interviewing within a formative style of

research with a specific population allows for some disclosure of this puzzling epidemic.

The target population is individuals who are attempting weight management success

while participating in a structured program, which includes the use of online discussion

forums for ongoing support.

Sample description

The sample in this study was drawn from a hospital based weight management

program. All potential respondents have completed an intensive weight loss program

(followed by a team consisting of dietitians, behaviorists, exercise professionals and

physicians, weekly group meetings, medical monitoring and as needed individual

consultations). The respondents are automatically eligible for this maintenance phase of

the program if they completed the sessions for the first phase, which is equivalent to a 16-

26 week program. The characteristics of the sample create a diverse population from

various economic, academic and socio-cultural statuses. The population that will be

sought are those who are in the maintenance phase but have also decided to participate in

the online discussion board entitled *the eweightmanager*. The eweightmanager is an

asynchronous discussion board that is facilitated and administered by the weight

management center's professional staff. Forums are posted and discussions can occur

simultaneously. The total population size is currently sixty-four participants and the

number continues to rise with more participants signing up daily. Sample individuals

were chosen based on criterion sampling. The sample size is limited to allow for in-depth

interviews that can provide rich data, while also taking into consideration the researcher's time constraints. The choice of sampling approaches may be the single best implication of the differences between qualitative and quantitative research methods. Purposeful sampling is the selecting of information-rich cases for studying in depth, which will illuminate the questions under study. Insight, understanding and credibility are sought rather then empirical generalizations (Patton, 1987).

The researcher, along with her committee chair at Michigan State University are the primary researchers in this project and she is aware and comfortable with her biases. The interest in this subject matter arises from her experiences as a program coordinator and nutrition therapist in a weight management program; the same program that the sample population for this project was drawn. She has witnessed the many efforts that individuals make to be successful with their weight management, and has also observed the regaining of weight. Not only is weight regain detrimental to a person's self-esteem but their confidence that they can be successful with weight management is damaged as well. The emotional state during weight loss is very different then that during weight management. This effect of weight loss needs to be taken into consideration when attempting to help individuals become successful at managing their weight. Through facilitating behavioral / nutritional therapy groups as well as her graduate studies in the adult learning arena, the researcher feels comfortable with her assumptions and biases regarding the adult learner.

Research Design

The design for collecting this data will be iterative and flexible. The phenomenon being studied will evolve more through each interview and each experience that is shared. In the early stages of interviewing more emphasis will be placed on the gathering of themes and ideas. The interviews will include open-ended questions and will actively solicit a wide variety of ideas and themes related to their learning experiences as a weight manager, in particular with the eweightmanager discussion group. Through this process of iterative research the topic begins to narrow based on interviewee feedback, concerns in the professional field and the researcher's personal interest and focus.

This research project will use interviewing to collect data, as Patton (1987) indicates, the purpose of interviewing is to allow individuals to enter other people's perspectives. The interviewer assumes the task of making it possible for the interviewee to bring the interviewer into his / her world. Thus, high quality, rich data may be obtained by talking to informed people. The three suggested approaches to collecting qualitative data through open-ended interviews include, 1) the informal conversational interview; 2) the general interview guide and; 3) the standardized open-ended interview (Patton, 1987). A general interview guide was used for this study. The guide is a list of questions or issues to be explored during an interview. The guide is prepared before the interview to assure similar information is obtained from different interviewees and that the basic elements of the questions are covered. The advantages of an interview guide are that it makes the interview more systematic and focused and allows the individual's perspectives and experiences to emerge in response to the open-ended questions that are generally asked during the interview. Qualitative interviews require the interviewer to frame questions on

the spur of the moment and yet obtain responses with deep meaning, description and explanation (Rubin & Rubin, 1995)

The interview guide protocol was used as a method of collecting data for this research because it allowed for some focus on concepts but yet the ability for participants to express themselves fully rather then respond to a predetermined list of options. The sequence of questions was not predetermined and questions were asked as additional leads emerged. The data will hopefully uncover thoughts, feelings and experiences of learners as it relates to their maintenance of weight and their experiences with the supplemental online environment. This gained knowledge will allow the researcher to develop a set of recommendations to assist behavioral health professionals in developing better learner centered online options for weight management programs.

The secondary researcher will be the only person conducting the individual interviews. A primary advantage of the personal interview is the high response rate, once the respondents have agreed to participate, and the ability of the interviewer to note specific reactions and eliminate misunderstandings about the questions being asked (Rubin et al., 1995).

Sample Selection

Criterion sampling will be used to help with the homogeneity of the sample and for specific criteria to be met. The purpose of homogeneity is to describe some particular sub group in depth. The individuals chosen were chosen due to their commitment level, which is evident by meeting the criteria selected. Since this project hoped to uncover tactics for helping to keep learners engaged for long term weight

management success with behavior change, it is important that they experience some success and reap some benefits of this behavior change in order to be motivated for the second phase which is maintenance. The criteria that each respondent met includes 1) logging onto the *eweightmanager* site at least three times, 2) at least one online response to a faculty generated forum, 3) a weight loss of at least 10% of their initial weight and 4) at least one consult with a health professional during the weight loss phase. Twenty-five individuals out of sixty-four met the chosen criteria. The twenty-five individuals were mailed a recruitment letter, an invitation to participate in the interview process (see Appendix A).

Six individuals responded to the recruitment letter. They were scheduled an interview time. Each interview took place in a quiet and convenient location and was tape-recorded for accuracy of the data collected.

Unstructured questions were designed to give the respondent the widest possible latitude in their response. The interview guide as reported by Neumann (1994) is essentially an outline of the specific areas of interest to be covered during the interview. In this research, an interview guide was used (see Appendix B) that includes general questions and more specific questions- all focusing on the respondents life experiences, engagement with learning, weight management and in particular their experiences with Sparrow Weight Management Center's *eweightmanager*, an online environment. The interview guide helped make the interviewing more systematic and comprehensive for each respondent.

A brief description of each interviewee allows the reader a visually contextual perspective of each of the learners' reflections and experiences with online learning.

S1 is a woman in her late forties who works in a management/ team position with the State of Michigan. She doesn't have a computer and email at home but uses computers fluently and often in her career. She has no children and lives with her partner. She lives in the Lansing area.

A2 is a woman in her late thirties who is employed as a communications director and is well known in the community. She has teenage children at home and has a busy social life. She uses the Internet fluently at home and with work. She lives in the Lansing area.

G3 is a woman in her mid forties who has grown children and grandchildren in the area as well as a school age child at home. She works part time for Michigan State University. She uses the Internet fluently both at work and at home.

M4 is a woman in her late fifties who is retired from the State of Michigan. She lives with her husband in the country. She is very comfortable with typing and computers, however, she is just becoming familiar with discussion forums and email (the Internet).

N5 is a woman in her early thirties who is the mother of two young children and is employed full time with the State of Michigan. Her husband also works full time. She enjoys the Internet, both at home (after the kids are in bed) and at work (during breaks). She is very comfortable with discussion forums and chat rooms.

S6 is a retired woman in her early sixties who has chosen a new after retirement career in the travel business. She lives at home with her husband and travels often with friends and co-workers. She is comfortable with the computer for work purposes, especially email.

Data Analysis

Each interview was 30-90 minutes, we met in comfortable and convenient locations for the interviewee. Several of the interviews were held at local restaurants, others were held in private conference rooms, interviews did not all occur on the same day, they occurred over a two week period of time. Field notes were taken and they were audio recorded for increased accuracy. The audio-tapes and field notes were transcribed for data analysis. A table of codes was developed after the initial read through (See Table 1). The codes were developed based on the themes and concepts that were beginning to emerge from the data. The table of codes included a definition for each code and when it should be used. When coding the transcriptions the emerging themes and concepts were used to minimize the data. The initial coding was shared between researchers to ensure inter-rater reliability. This encouraged reliability and truth in the themes that were emerging. Changes or additions to the coding schemes occurred after this cross- checking occurred.

Contact summaries were developed for each interviewee to help summarize and continue to minimize the data collected (see Appendix C). The summaries were also used for validation through member checking, where each interviewee obtained a summary of their interview content and was asked for approval in accuracy. Through out this process of organizing and analyzing the data, codes were developed and themes began to emerge. Identifiers that could be traced back to the respondent were effaced by assigning anonymous names which were used for categorizing and gathering the data. A contact summary form was completed after each interview, which includes data such as

contact type, interviewee, date, main themes that have emerged, follow up concerns if applicable and a summary of the data collected. After all the interviews were complete narrative displays were developed to help organize and compile the data; each emerging theme was displayed along with the related response from each interviewee (See tables 2-11).

The final phase of analysis was to confirm and disconfirm patterns among the individuals. For increased validity member checks were done. This is a process where feedback about the data and conclusions being made are solicited from the interviewees/respondents. This is an effective way of ruling out the possibility of misinterpretation of the meanings and perspectives of what is being said (Guba & Lincoln, 1989). This process occurred by sending each interviewee their contact summary and then following up by a phone call or email to obtain approval of accuracy in the data collected. This process helps clarify concepts and assumptions by providing this information to interviewees prior to making conclusions.

This chapter presented the qualitative method of data collection as well as rational that was used for the design described; formative evaluation using personal focus interviews. The next chapter will present the results of this study.

Chapter IV

Results

The purpose of this chapter is to present the results of the interviews that were held with individuals participating in a supplemental online learning environment as part of a weight management program. It is important to remember that the information that was gathered was being told to a dietitian, counselor and facilitator for the online learning environment and face-to- face classes at the weight management center. Each interviewee had some prior interaction with the interviewer prior to this research. Therefore, there was some degree of ease at each interview.

Interviews lasted anywhere from 30-60 minutes. An interview guide was used to collect in depth subjective data on fairly specific topics and experiences, in this case individual's experiences in an online learning environment. After the first read through a table of codes was developed as themes emerged from the data. The codes were used to help organize and minimize the data (See Table 1).

Table 1. Coding Chart for learners experiences on the eweightmanager

Theme	Tag	Definition	Description	Example
Learning style	LS	How learner best learns or enjoys to learn	When the interviewee describes how they learn best or how they enjoy to learn	I like to learn from a book and through discussion
Focus	FOC	Aware of goals and committed to	When an interviewee	Being able to set a goal and then check

		meeting them	discusses what they are doing or what is helping them to meet their goals or stay focused in relation to their weight management.	it off and feel the satisfaction that comes with making it over the first step
Convenience	CON	Easier to do, doesn't take too much extra time and effort	When an interviewee describes it as easier, less time consuming or readily available	You can do it from home, the convenience thing is definitely there. My schedule is so busy and I like the idea of not having to drive out of my way to get to a f2f class.
Interaction with facilitator and/or other learners	INT	Participation in a group either f2f or online	When an interviewee describes an interaction with another group member or the facilitator	It is comfortable to get feedback from others. At first some reservation due to lack of f2f time with inline learning.

Facilitator's role	FAC	What is the role of the facilitator in an online group/ discussion	When the interviewee describes the facilitators role how they see it	It is important that they respond, but not necessarily to every message, other learners may respond
Motivation to continue learning	MOT	What keeps someone interested to continue learning	When an interviewee describes what keeps them interested in a subject matter	It has to be interesting to me and I have to enjoy it.
Support	SUP	safe, not all alone and being heard and understood	When the interviewee describes not feeling alone, having a buddy, feeling safe or feeling comfortable with each others similar situations	It is comforting to know that there are people out there in the same position that I am in.
Technology program-ming	TEC	Experiences/ feelings toward computers;	When an interviewee describes	I'm from a different generation, I was a bit apprehensive at

		including challenges with figuring out the program/ computer or making recommendations for improving the program based on experiences	experiences that involve the actual program or technological situations	first. I just couldn't manage it, couldn't figure out how to use it.
Internal vs. External benefit of EWM	IE	Internal benefit is intuitive and an external benefit is more measurable	When the interviewee describes the benefit of the EWM as intuitive/ emotional or as a source of new gained physical knowledge.	It helps me to just talk through a situation. I don't expect to learn or pick up new facts.
Face-to-face learning vs. Online learning	FVO	The benefits and/ or challenges of learning online vs. face-to-face	When the interviewee describes experiences/ beliefs with learning	Sometimes it is more difficult to speak in front of a group due to the fears of being focused on and

				directly identified as face-to-face learning or online learning	looked at then it is to sit at a computer and type a response.

The following narrative displays (see tables 2-10) are summaries made after reading and analyzing each interview transcription. They reflect the emerging themes that became obvious after coding, minimizing and compiling the data.

Learning Style. How individuals like to learn is an important aspect when listening to their experiences with an online learning environment.

Table 2. Summary of responses from all interviewees when asked about their learning style.

Interviewee	Interview
S1	Enjoys learning through reading and through discussion. As an adult she likes to learn more through discussion, due to work, practical experiences and need for relevance. Benefit of discussion, can talk and get it out.
A2	Prefer reading to lecture in order to absorb the information. Enjoy talking in a group however easily distracted. Very comfortable talking in a group, however, group size would sometimes not allow for this
G3	Learn visually, discussions are helpful to hear others ideas and insight. Learn by making mistakes and discussing it. Enjoy speaking in a group; sometimes she would stop talking due to feeling self conscious of

	monopolizing the group.
M4	Need constant verbal discussion rather then reading otherwise she has difficulty retaining information. Listening to others she considers learning.
N5	She enjoys learning hands-on and by demonstration. She also enjoys reading, taking notes and then asking questions. Interpretation occurs through discussion and asking questions. She feels comfortable asking questions in a group, however she feels that others can monopolize the group discussion.
S6	She enjoys reading, investigating on her own and then discussing it with professionals. She tends to try and take facilitators role, due to her professional experience in this area, but she doesn't want to be the one with her hand up all the time.

A theme that continues to emerge is the necessity for discourse when learning. All respondents mentioned the importance of discussion when learning. They explained the benefits of discussion from the standpoint of *getting it out* to hearing others ideas and insights to being a verbal reminder for better retention of information. When N1 was asked how she most likes to learn, she responded:

Anytime there is something new that I'm trying, I usually read up on it, take notes and then ask lots of questions. The ability to ask questions is the kicker, because when you read you often don't always interpret it correctly. Having your questions answered and talking is most important.

Learning in a group often allows for discourse. However, the group dynamics also play an important role in the potential for learning to occur. When G3 was asked if she was a person who felt she was able to speak up in a face-to- face class, she responded:

> I did speak up a lot, and there were some nights when I felt I should stop speaking up just because I felt like I was the only one talking and you know, I didn't want to be the only one talking.

The mention of *monopolizing* the group occurred in the context of three out of six interviews. All though they each considered themselves to be social or group learners, there was the concern that they or someone else was taking too much of the class time by monopolizing the discussion.

Degree of Focus. How and what individuals do to keep aware and committed to meeting their goals for weight management success. This was asked in the context of the interview guide and their experiences with the online learning environment.

Table 3. Summary of responses regarding focus on goals for weight management success, awareness and commitment to meeting these goals.

Interviewee	Interview
S1	Eweightmanager participation helps her to maintain focus or get support when needed. Availability and convenience allow the sense of feeling connected to her weight management goals. Allows day-to-day accountability and goal setting, which increases the likelihood of accomplishing goals which helps with not disappointing self. Looking at

	the whole picture is helpful for overall goals.
A2	Being online and discussing is something that she enjoys and is comfortable with, therefore would help stay engaged in the positive changes that are being made in life.
G3	When gaining the internal benefit of support it is helpful to stay focused on wanting to take care of external self-care. Eweightmanager has kept me on target as far as what I've learned thus far, made me aware due to convenience of always being there even to just read others' comments, it keeps me thinking about it. Just knowing that it is available has kept me thinking about my goals when traveling, etc.
M4	Talking about weight management allows her to her thoughts out and not hold them in; it also allows time to reflect on self. Has a positive effect on her whole day, knowing that she has accomplished some positive self-care. Seeing, touching and being heard are important.
N5	Eweightmanager helps to stay more active toward her weight management goals; it allows another avenue for support. The discussions online help her to stay grounded; it is so easy to get off track and back into the dieting mentality. Eweightmanager helps her to stay interested in her goals and brings her into reality of what the next step is. When online she feels like she's taking control for herself, giving herself the time and break that is needed. It's "me" time, allows her to run a mental checklist and do something constructive toward maintaining her weight, active learning vs. passive learning. Participation with eweightmanager reminds her to take

	the conscious moment to refresh what she has learned in the face-to-face classes. Reinforces the learning process.
S6	[no comments on focus]

Four out of six respondents described the eweightmanager as a tool that has helped them to keep focused or engaged in their weight management efforts. S1 was probed about the sense of feeling connected that she described by participating on the eweightmanager:

Ahh, what do I mean by staying connected, umm, that I have it available, you know, available and in front of me, I guess that is where I'm staying connected. Staying focused, focused as in the way I want to be with my weight management. I know I can't say well, this week this is what I'm going to eat- this on Tuesday, this on Wednesday etc. But I can say this is what I'm going to do today. I can stay focused for that day.

N5 responds, " I run my mental checklist and make sure I am doing things, if not, what can I do to change it."

When asked how participation in the eweightmanager has helped, G3 responds, "I always know it's there...whether we are traveling or we are going to an event or something, you know it's nothing I'm thinking about all the time, but I am always aware."

Two respondents mention the concept of self-care. M4 explains how the eweightmanger has been viewed as, " a time to reflect... and get some thoughts off my mind".

N5 describes her feelings, " I feel like I'm kind of taking control… and making sure things happen rather then letting things happen to me".

Convenience. Comments on the convenience of using an online environment such as the eweightmanager, for weight management support.

Table 4. Summary of responses regarding conveniences of using online forums for weight management support

Interviewee	Interview
S1	Can communicate with people one way or another at anytime without making the drive to the face-to- face classes. Location of face-to- face classes is inconvenient with my work and home location. Always available for support or resources.
A2	Schedule is busy, online can be done anywhere, she can schedule a time for herself each day when it fits into her day. Doesn't have to take a large portion of time out of day. With all the other things that it takes to lead a healthy lifestyle- time is an issue.
G3	Support whenever it is needed. Don't have to wonder, can just ask. Can gain others insights from convenience of home. Know it is available even if not using it.
M4	Always available- feels like she can always ask, always learn something, like she's not losing any learning or contact time with the professionals or her peers.
N5	Available when she needs it 24/7, not just when face-to- face classes are

	scheduled. May need support at various times of the day
S6	Uses computers all the time anyway, chat rooms and things like that

All interviewees reported that they found the eweightmanager to be convenient and that the convenience was an important factor in their continued as well as initial use of the eweightmanager. Four respondents reported that it was difficult to make the face-to- face classes due to one of several factors; the long commute after a busy work-day, the inclement *Michigan* weather and the lack of flexible times that face-to- face groups are held. A2 responds, "my schedule is busy and I thought versus driving to a class that I would just go to the web site".

The interviewees who had young children at home acknowledged the convenience of getting the support or interaction whenever it was needed and being able to do it from home the time of the day that best fit their schedule.

Group Interactions. Sharing interactions that occur between learners or learners and facilitator. These interactions may be face-to- face or online.

Table 5. Summary of responses regarding interactions with other learners or with the facilitator in a face-to- face or online group

Interviewee	Interview
S1	By reading other learners' responses it feels as if she's listening to a conversation, which stimulates self-talk. Discussions in a class are helpful, sharing ideas and gaining insight. She considers learning to be the sharing of ideas. She feels comfortable speaking up in a group,

	however, less people participated in the discussion as the program went on - maybe they felt comfortable with what they were doing and just did their thing and left.
A2	Maintenance participants who come to the face-to- face classes were negative, they judged based on physical appearance. It was helpful when online to have a dialogue instead of waiting to be responded to in a day or so. Helpful to read individuals posts on how they cope / make choices, etc. She enjoyed the facilitator redirecting or challenging some participants. Unfortunately people have a tendency to be negative in a group. She's much more interested in the answer from the professional and how this may change her behavior or a choice.
G3	Practical experiences and ideas for coping and dealing with difficult situations are very helpful for keeping her interested in sustaining a healthy lifestyle. With online learning it is nice to get feedback when asking a question, making a comment or observing. Constructive feedback is helpful, if worded correctly. Can appear to be criticizing if pushed too hard. Confrontation in a discussion can cause the learning to subside. Others experiences are valid especially if going through the same thing. Feedback helps make an idea valid. It is not a negative thing to be the only one talking in a group.
M4	Connecting with other people and reading what they say or think is a learning experience- It's nice to be heard in a group or understood, which reaffirms her thoughts. She has a difficult time expressing herself - it is

	nice to have people understand her in a group.
N5	It is important to get a response from either the facilitator or other learners - so she doesn'tt feel alone. If given no response it may be taken personally. Constructive criticism is helpful especially when learners are off track.
S6	Sharing personal experiences is learning. Some groups are easier to speak out in then others depending on the facilitator's style.

Many questions during the interviews alluded to the discussion of learning interactions. Some were positive, some negative and they occurred in both online and face-to- face environments.

All six interviewees mentioned the benefits of sharing ideas and concepts in a group atmosphere as an important interaction of learning. M4 discusses her experiences with interacting online:

> When given advice I consider it learning, I don't know if it's learning anything
>
> about weight or the loss of it or if it's just connecting with other people, reading
>
> what other people see or think. Of the five different people in our class, where
>
> every one of us is different I learned something from every one of them. [It is
>
> nice] when you answer me and it is upbeat and I think oh, well I guess I did
>
> answer the best I could, you know and you understood it.

Four out of six respondents mentioned feedback. When M4 was asked how she felt while online with the eweightmanager, she states:

I'm getting my thoughts out [and] I'm not holding them in. I've got someone to

listen to me. I'll get an answer and I'm very anxious to get that answer because

I'm always there looking for an answer and waiting 2-3 days is not a good thing.

N5 discusses her insight on the importance of feedback on an emotional level:

...I think that it is important that the staff responds... so you're not feeling that

you're alone. I know sometimes, like, I just think about posting on the other

message boards [that I visit]. When no one responds people tend to get their

feelings hurt as if nobody cares and it may not be that nobody was trying to be

malicious or mean, but I've seen it, I've been on a lot of different message boards

for various topics and you'll see someone say, 'well no one responded to me,

maybe I should just leave this board.' I have never had this happen to me where

I've gotten upset, but I think that it is important to respond.

When asked about the feedback she received. G3 responded, "... it made what I

was saying more valid, you know to me I would think ummm?, [but when] people would

say 'yes, that's how I feel too'...".

Constructive feedback or challenging one another also was viewed as helpful

interaction. The practice of challenging one another, whether face-to- face or online does

need to be sensitive and not confrontational. GS shares her thoughts on this type of

interaction:

...When people are positive and supporting and they say yes I think that's exactly

right and it makes you feel good [and that]... somebody feels the same way. If it

was criticizing just me then I would probably feel down about it, not a long range

kind of thing, but just you know [I might think], that wasn't very nice... but if

somebody said, 'well that's good, but you might want to try this' then that could

be a little bit more constructive. I think we heard a lot of this in the entire

program, because that's how you learn.

Role of a facilitator. What is the role of the facilitator in a

group learning environment, either face-to- face or online? Interviewees share their

experiences and expectations.

Table 6. Summary of responses regarding the role of the facilitator

Interviewee	Interview
S1	Knowledgeable, but not the end all is all to a discussion occurring. Keep the conversation truthful with some sort of direction.
A2	Facilitators' role is the most important. They can turn a negative comment into a positive constructive comment. She's interested more in what the teacher has to say then the students because she wants to know the answer.
G3	Their role is to overlook and make comments, comments help validate the learners' thoughts and ideas.
M4	They should be open- minded, able to comprehend ideas and thoughts. To be positive, personable, approachable and able to get their message across. Helpful if the facilitator was/ is known also in a face-to- face situation.
N5	A moderator for the interaction between peers and to keep it polite and

	truthful. To keep it at a professional level. To comment, especially if other learners are not commenting- learners begin to feel alone if no one comments.
S6	To guide the discussion to prevent, "going off on tangents"

All interviewees responded to the role of the facilitator as being important to their continued use of the eweightmanager. Helping with direction and providing professional/ truthful feedback is necessary. The presumed role did not change based on the group being face-to- face or online. However, the importance of feedback was stressed in an online environment. For both keeping things positive as well as keeping learner's engaged in a *non-human touch* environment. ND responds:

> I think that it is important that the staff responds [vs. relying on peer interaction] so that you're not feeling like you're kind of alone. When no one [peers] responds it is important that the facilitator respond some how.

> Only one interviewee reported the facilitator's role to be most

important, over the interactions between learners. This respondent is more so interested in gathering correct information than processing the information, which was not the consensus of the six interviewees. S1 explains the facilitator's role in her opinion:

> I've facilitated groups with work and I certainly hope that my role is important, not the end all be all, but someone has to either throw a bit of truth or knowledge or fact into a discussion gone wild.

Motivation to continue learning. The factors that keep a learner interested and motivated to continue the learning process. The data collected is related not only to the weight management learning process but any life experience.

Table 7. Summary of responses regarding what keeps a learner interested and motivated to continue learning?

Interviewee	Interview
S1	It has to benefit others and be of interest to her. She also likes to be challenged and if she makes the conscious choice and sets her mind to it that can be a challenge.
A2	Commitment and being able to relate to the subject matter. There also must be a reason for the learning, even if just to become better at something. She considers herself to be self-motivated and she will problem solve until she figures it out, she enjoys seeking out new knowledge. Interest in the subject matter is also important.
G3	Desire and enjoyment have to be present. When she does well at something she enjoys and therefore wants to continue.
M4	Determination not to fail - her age and the mistakes she has made, knowing that she has to keep going, a driving force. Health and work, there must be a reason to learn.
N5	When she accomplishes small reachable goals it helps her to stay interested
S6	Does it relate to her current life stage

Four out of six respondents mentioned having an interest in something, as a factor in their motivation to continue learning. A2 discusses her motivation to learn:

If I have a flat out interest in something, like traveling... I like to read about different countries. If it's not a personal interest it is generally tougher to stay focused on it and I have to make a commitment to sitting my butt down and learning it.

Learning must also be contextual. Half of the interviewees reported that there must be some sort of reason for the learning to occur or that it must be relevant to their life experiences. When asked how she stays interested in the learning process, S6 responded:

Relevant, absolutely it has to be relevant and it has to pass the relevancy test for me because if it is not relevant to my life or my particular situation then no I'm not interested... for example journals that target the 18-34 year old women of child bearing age hold little or no interest to me even though they might have articles in there on weight management, but they are likely to be ... recapturing your body after childbirth and how to manage breast feeding, things like that

Self -efficacy or doing well at something was also mentioned as a motivator for learning. G3 states a reason for her staying motivated in the learning process of weight management was, "I guess because I knew I was doing well... therefore I looked forward to every Tuesday [the night I had class]".

N5 reports that reaching small reachable goals helps keep her interested. Making a commitment and determination were mentioned by half of the respondents as a reason for continued learning. M4 relates her commitment to her age and her

determination to not fail. A2 states, " I need to learn it to perform the best at my job because I like to be the best".

Support. Respondents describe feelings of support, feeling safe, being understood and not feeling alone.

Table 8. Summary of responses regarding feeling safe, understood and not alone

Interviewee	Interview
S1	Having the eweightmanager available is like a safety net. Most important thing she has learned on the ewightmanager is the reassurance that what she's doing is OK.
A2	Eweightmanager allows for asking questions of other learners regarding their coping and difficult situations
G3	She expects the eweightmanager to be a community that she can visit and always feel welcome. It is available whenever she needs a resource, information or a listening ear. She thinks of it like a personal friend.
M4	The eweightmanager allows you to not feel alone, that other people have problems related to weight also. Feel accepted with like people. Reading others' responses can be supportive to your own actions. Felt good to be typing out all of her thoughts.
N5	Eweightmanager allows you to learn from others who are in the same situation and what hurdles they may have overcome. To know that you are not alone, wrong or a horrible person. It's nice to have the positive feedback and a buddy for positive feedback

S6	Thought eweightmanager would be helpful to support her efforts for weight management success. To gain insight from others.

Feeling supported, understood and not alone was a major benefit of participating on the eweightmanager noted by all interviewees. They explained it as a sense of " community" or a "safety net". Knowing that other people were struggling with similar situations was a comforting feeling. N5 explains how she has gained support from the eweightmanager:

> You know sometimes after a rough day or, you know, sometimes it helps to get online and just see [how] other people may be going through the same thing, like during the holidays... it is helpful to hear from other people who are in the same situation... how they overcame hurdles. [By participating] I don't feel alone and I'm not the only one feeling a certain way. It reassures me that I'm not wrong or you know, a horrible person. It's sort of nice to have a buddy in all of this and just have some positive feedback.

> Five out of six respondents are using the eweightmanger for a resource. They are asking peers and/ or the facilitator questions to gain knowledge or insight. S1 comments, " I can just click on it when I need extra support or to see what the schedule is to see if I can make it in for a face-to- face class" .

Experiences and feelings related to technology. Experiences and feelings regarding technology (the computer) and how these feelings relate to online forums like the eweightmanager.

Table 9. Summary of responses regarding experiences and feelings related to the computer or the technology involved with online forums such as the eweightmanager

Interviewee	Interview
S1	Initial thought of eweightmanager, a bit apprehensive due to her age and her generation not being as fluent with the computer as her professional peers
A2	She loves the idea of getting online, she does everything online - very comfortable with the Internet. When first attempted the eweightmanager, she didn't understand the point - not enough direction. Would recommend organized chat rooms for immediate response from facilitators - could easily be scheduled into a busy day. Initially not enough postings from participants and therefore, she lost interest.
G3	She likes the Internet; she's comfortable with ordering things and email, etc. She iked the feedback- there is some lag time but once she received the feedback it was really nice
M4	Initially she didn't understand all the avenues to get information, more benefit then she realized. She really likes to type - she can think about it and read it over - she's enjoyed this her whole life. Very frustrated when she couldn't get on - due to programming issues, this only happened once. It would be difficult if participants didn't know one of the facilitators. [However this is not the case with the eweightmanager]
N5	She has a lot of familiarity with message boards, etc. online. She's always

	found them helpful.
S6	She uses the Internet all the time chat rooms, email etc. Frustrating because the eweightmanager does not have enough interaction / participation. The site was very difficult to use, which is ridiculous since she doesn't consider herself computer illiterate - it disappointed her because she liked the concept. Suggested an introduction to the eweightmanager [there now is a instruction sheet/ link available]

Five out of six interviewees feel " very comfortable online." They have much practice with email, ordering things online and some have ventured out to other chat rooms or discussion forums.

Technology based learning also has some limitations. Apprehensions to this style of learning include: not being from the generation where computers are the norm, not enough direction, too much lag time between interactions (unless on a live chat room), and the lack of face-to- face interactions. Both S6 and A2 share their negative experiences with the eweightmanager and the technology of learning online. When asked how she felt while being online with the eweightmanager, S6 reports:

Actually my recall on that is that it was frustrating because I couldn't seem to find comments from more then one or two people and I think at the time I thought this is silly, this is not going to work if I can't manage to get what I need, ummm, If I can't even find comments from people on it then I will email the administrator of the site and tell them that I find it very difficult to use and that what I had expected was that I would be able to quickly see everyone's comments on a given

topic - and I just didn't. I wasn't able to get through the process. I just thought it was awkward to use and I ended up just getting nothing much- I was frustrated... however, if I could manage to use it I should be able to learn something from other adults.

A2 responded to the same question:

I felt alone. It was like I didn't understand it, typing

into something, nothing. I really didn't even know what to ask, because I wasn't

clear who was answering the questions. I never got back on after that experience.

External vs. internal benefit. Experiences and feelings of gaining external vs. internal benefits from participating in the eweightmanager online forums.

Table 10. Summary of responses regarding experiences and feelings of gaining external vs. internal benefits from participating in an online forum

Interviewee	Interview
S1	She didn't expect to learn or pick up new facts. She's after insight, how people are getting through and some reinforcement - an internalized gain not physical.
A2	She found this type of interaction an internal benefit, just by talking to others about how she was coping.
G3	Initial thoughts of online learning were the benefits of sharing. Initially thought of it as only internal support but realized that internal support rolls over into motivating positive external support like before eating a piece of cake.

M4	She doesn't feel this type of environment will be in depth enough to gather physical / factual information re: nutrition, etc. she enjoys getting her emotions and thoughts out - she doesn't have to stop until her mind is clear
N5	She considers this type of environment to help more with internal aspects, just because she is making an attempt to focus less on the scale and looking more for changes within. But she think that probably both would be effected, it is necessary to have the external information to help her internally with the whole weight management situation. She wants to learn to recognize her intuitive signs for hunger rather then take a pill to control it
S6	She didn't expect to learn any new factual diet information, it is purely an emotional support kind of thing for her.

External benefits are defined as gathering factual information such as weight, calories and recipes. Internal benefits are defined as learning intuitively such as reflection, self-care, identifying internal body signs and emotional cues.

All respondents identify their participation in the eweightmanager as an internal gain. G3's initial thoughts of online learning were:

I thought of it as more of an internal support, but you know, I guess as we've learned [in the program] one rolls over into the other, umm, if you are feeling confident and ask a question, then in the end you get that little bit of motivation to think before deciding to pick up that big piece of cake or whatever- so I think that they [internal and external] work together.

N5 states, "I want to learn to recognize my intuitive signs for hunger rather then take a pill to control it".

Discourse and having the opportunity to get out feelings and thoughts were an internal benefit mentioned by five out of six respondents.

Online learning vs. face-to-face learning. Experiences and feelings are shared when comparing face-to-face vs. online learning.

Table 11. Summary of responses regarding different experiences and feelings with face-to-face learning vs. online learning

Interviewee	Interview
S1	Face-to-face learning is easier to just say it and acknowledge that it was said- Online learning causes you to think more about a response first
A2	Comfortable talking in a group, she's very open- however secondary to job position it can be odd to be seen in a group, others in group may feel inhibited as well as she may feel uncomfortable. A benefit of online learning is the animosity.
G3	When online she feels more able to speak up, more confidently in what she's saying. Online it is easier to get a point across, face-to-face can be more difficult since you can't delete. She always has a lot to say in face-to-face groups, sometimes she felt like she was the only one talking. Online it is different because you are not aware of people sitting back and not participating in the discussion.
M4	She needs the face-to-face contact- she wouldn't choose to do an online

	only program. Initial thoughts were not good - she doesn't retain things well she need to have verbal talk rather then reading. It is a lot easier for her to type than talk. Online learning eliminates the facial expressions associated with communicating - this can be a good or a bad thing. After meeting a person face-to- face and having a bad initial meeting she would not feel comfortable communicating with them online.
N5	In face-to- face groups people can monopolize. She feels equally able to speak up online or face-to- face- however she doesn't notice monopolizing behavior online.
S6	In face-to- face groups she would consciously not speak up due to the concern for monopolizing the group - secondary to her facilitating experience it can be difficult to just enjoy the conversation, she tends to be critical. Online there is no feeling of being watched - the fear of speaking up in front of a group. Also with weight consciousness people - online communication could be easier.

When asked about their ability to speak up in group three out of six interviewees commented on the feelings of the group discussion being monopolized. This was felt secondary to some participants visibly and obviously not interacting and others taking control of the group discussion. This was viewed as a flaw in the facilitator's competencies. G3 comments, "I haven't really felt [the monopolizing] online because you don't visually see the people sitting there not participating."

Animosity is mentioned as a benefit to online learning by two out of six interviewees. Secondary to work/ professional status and the weight consciousness of individuals in an face-to- face group, the autonomy of online groups can enhance ease and comfort with communication.

Chapter V

Conclusion and Recommendations

<u>Discussion</u>

The subjects in this study discussed their reflections with an online learning environment. In particular each interviewee has participated in the eweightmanager, an online discussion forum for ongoing weight management support. The basis for this study was to gain insight from the learner's perspective, an 'emic' or insider's perspective as the phenomenon emerged from the data (Patton, 1987). The following strategies were inductively explained as themes emerged from the data: 1) online learning 2) the components of learning style and 3) cognitive behavioral therapy intervention for weight management.

1) The first concept being that the components of online learning can compliment the non- traditional style of learning as well as provide an environment for weight management support and the application of learned knowledge.

As the literature displayed there are many advantages as well as some limitations to this style of learning. The advantages of an online learning environment include: flexibility (learning that is time and place independent- with asynchronous learning), self-paced learning, affordability and a positive significance within today's communication culture. Not surprisingly, many of these advantages also represent potential limitations for learning. The time-independence feature of asynchronous learning can be very beneficial for a busy schedule. However, it can be a drawback in situations where problem solving and feedback is time sensitive. The self-pacing benefit also may be a disadvantage for learners that are unable to self- motivate or self- direct. Technology

itself can impose the greatest limitation. If learning systems are not user friendly learning can be hindered by preventing the development of a positive attitude toward the online learning environment (Chute, Thompson and Hancock, 1998).

All interviewees responded to the benefits of the flexibility involved with the eweightmanager. N5 comments on how the flexibility has benefited her:

[when online], I feel like I'm taking control, it's my time... I'll do it at work when I get a break or late in the evening when the kids and my husband are asleep... it makes me feel like I'm putting myself first for a moment without neglecting or hurting anybody else.

Self-paced learning was also noted as a benefit. M4 responds, " I can think about it and read it over and then post it".

However, limitations were also noted as several interviewees verbalized frustration with infrequent peer interactions and postings. This in part could be due to a lack of self- motivation and direction by participants. A2 states, "initially there were not enough postings and I lost interest".

Time sensitive responses were mentioned by three out of six interviewees. Otherwise participants "feel alone," like they are "typing into something and I really don't even know... who is answering ".

When interviewees discussed their experiences with learning and the Internet, online asynchronous learning was predominantly viewed as a positive experience. When compared to face-to- face learning the animosity of the learner was beneficial, especially for those individuals seeking weight management support. S6 responds:

Everybody turns around and looks at you [in a face-to- face group], and in the case of people working on weight management, you don't want people to look at you because of your weight, but speaking online people wouldn't feel as shallow.

As Van Gelder (1996) argues, it is in the absence of this face-to- face contact that intimacy can be enhanced. The concept relates to the phenomenon that it is easier to talk to a stranger in the form of a counselor then someone who was known previously.

The monopolizing of group discussions was a concern with five out of six interviewees with face-to- face groups. However, this was not felt with online groups. Regardless of the amount of participation that had occurred, it was not as readily obvious in an online group, therefore feelings of monopolizing were less apparent.

Palloff & Pratt (1999) recommend that in order to engage learners in the online learning process and to encourage the meaning making process that is part of the constructivist approach for learning the content should be embedded in the learner's everyday life. The process of connecting real life experiences to learning can provide a sense of empowerment for individuals validating themselves as people who possess knowledge and who can apply what they know in other contexts of life.

S1 comments on how she maintains her focus and awareness by using the eweightmanager to encourage day-to-day accountability by setting goals. She also mentions how setting these day-to -day goals helps her to be realistic, which decreases the likelihood of disappointing herself.

2) The second concept that evolved is that learning style can affect the learning process in which weight management efforts take place.

Collaborative learning has a strong social response and takes place not

from the books or facts that are read but the influences and the discussions that occur in a group (Bruffee, 1999). All interviewees responded on the importance of discourse for an optimal learning experience. Interviewee G3 comments on her experiences with learning, "I didn't even know how to do it, but from looking at it and talking about it with others and making some mistakes, I figured it out."

Merriam & Caffarella (1999) support this theory by defining collaborative learning as relevant and applicable to the learner's current or desired lifestyle. Dewey (1938) implies similarly that learning is not simply gathering information but to rather bear upon our everyday actions and behaviors. Interviewee S6 explains how she stays motivated to continue learning: "relevancy, absolutely it has to be relevant... if not relevant to my life or my particular situation then I'm not interested".

Because the eweightmanager can be visited from anywhere there is Internet access; the questions, concerns and insights are most often relevant to the learners immediate situation. Interviewee G3 comments are her use of the eweightmanager depending on her day to day activities," ... whether we are traveling or going to an event, you know I know it is available and I'm thinking about it, I'm always aware. It's helpful just knowing it is available, even if I don't use it".

It became obvious through the interviewees responses that an online environment is an appropriate and possibly an ideal place for contextual learning to occur. The relevancy of learning contextually encourages meaning and learners are more motivated, interested and achievement driven (Hansman, 2001).

Transformative learning is rooted in the constructivist theory and refers to learning as reflection and the interpretation of experiences, ideas and assumptions that are

gained through prior learning (Mezirow, 1990). The assumption that participants in an online supportive environment would learn in this way was also proven true. All interviewees considered their learning or hoped for their learning to be an internal gain versus an external gain. They described this happening through sharing and hearing the insight of others. Interviewee S1 comments on her expectations from participating on the eweightmanager, " I guess what I'm after is insight, how are people getting through and maybe as well some reinforcement as to what I'm doing is fine".

Knowles (1975), supports these ideas and the use of reflection, exploration and collaboration, suggesting that learners are motivated by internal incentives, such as self-esteem, achievement, personal growth, sense of accomplishment and curiosity.

3) The third concept is that cognitive behavioral therapy can be appropriate intervention therapy for weight management success and the application of learned knowledge.

Considering the recommendations for cognitive behavioral weight management therapy are different than those for initial weight loss, an online supportive environment can prove to be very beneficial. Weight management requires a special emphasis on viewing eating as a choice, self - acceptance and an abandonment of purely external factors as a measure of success. Inherent calorie restrictions as well as calorie and weight obsessions are discouraged (Cooper and Fairburn, 2001). Learning has to become internalized and should become a part of the learner's life not just an external measure of success.

The experiences and feelings of the interviewees in the online environment were in agreement with these recommendations. Five out of six interviewees noted that they

enjoyed gaining insight from others. They also discussed the benefits of being able to problem solve with other learners and/or the facilitator. Interviewee G3 explains her interactions with problem solving or interacting online:

> ...if you have a concern or a question and you ask somebody, in the end I think you feel more motivated, more confident. Which helps when you are making the choice to sit down and eat cake or whatever... you know I might respond [to someone online] 'oh, you know that is a good idea, yeah I might, you know try it that way, although this seems to be working for me'.

Interviewee S1 explains that when she is on line reading the responses of others it feels as if she is participating in a conversation which then stimulates- "talking to myself, saying I couldn't have done that but I could have done it this way ."

Reflection and positive self talk are skills that encourage the practice of, controlling choices and behaviors without the need for detailed external monitoring systems. This is a practice that is necessary for long- term weight control (Cooper and Fairburn, 2001). When asked about gaining external or internal benefits from an online learning environment all six interviewees responded that they have gained internal support. N5 responds:

> Umm, my expectations and experiences have been more internal, just because umm, I try not to focus on the scale and all of that so I guess I'm looking more for changes within... more for how I can control the whole weight management situation and that this information can help me internally so that I can be less reliant and so that I'm my own kind of force and base. I want to recognize my own hunger signals rather than having a pill do it for me.

The data collected from the six interviewees reinforces the concepts of

CBT for weight management success. The eweightmanager is part of the intervention for

the weight management phase of the program. The concepts of CBT recommend a

different approach for weight loss and weight management to provide overall, long term

management success (Cooper and Fairburn, 2001). The eweightmanager appears to

provide some of CBT's ideal components; peer-support, independent problem solving,

self- control, reflection and critical/ constructive evaluation of self and peers.

Limitations

The sample size, although appropriate for the research design and the criteria for

which the sample was selected can still be considered small. More importantly the depth

and richness of the data may have been improved with a greater time allotment from the

researcher / interviewer. Probing and a following up interview could have provided a

more thorough understanding along with a list of specific recommendations for this type

of online learning environment. Rather, then the general recommendations that came of

this research.

Biases may have been present due to my prior acquaintance with each

interviewee. I had met each interviewee previous to the interview in a professional

manner as their counselor or educator in a group or one-to-one situation.

Not all nominees who were called on in this study agreed to participate. After the

purposeful criterion sampling, twenty-five invitations were sent out and six responded.

These six individuals became the interviewees for this study. One might question whether

these nominees that didn't respond were potential key informants.

Criterion sampling may not be thought of as a true representation of all eweightmanger participants. However, the objective of criterion sampling is to describe a sub group in depth. This sample selection makes most sense with the research design that was chosen. The recommendations that arise from this study will be relative to those individuals who have completed a structured weight management program, who have lost some weight (at least 10% of their initial body weight), made a personal commitment (scheduled at least one consult visit with a health professional) logged onto the eweightmanager at least three times and responded to a forum discussion at least once. This sub-group is defined as self-motivated with increased self-efficacy due to their taking charge and making personal choices. The limitation could be that this group is considered, prime pickings. However, this sub group was chosen due to it being the most appropriate for obtaining useful and meaningful data from which recommendations could be made.

Conclusions

Though I can not conclude that an online learning environment is the optimal method for gaining support for all weight management participants, the research did prove that for self-motivated individuals who hope to continue making personal lifestyle changes the online environment can prove to be very beneficial.

Respondents in this study found the online environment to be convenient due to time and place in-dependency. They also felt safe belonging to a group of individuals with like concern, having the professional/ peer guidance , the" buddy system", the reassurance and the animosity that it could provide.

The online environment is an avenue that allows for open communication, social reinforcement, information exchange as well as an opportunity to increase self-esteem and self-efficacy. The respondents in this study found the sharing of real life contextual information to be beneficial to their sense of engagement toward their new lifestyle change.

The outcomes of this research allowed recommendations to be made, based on the experiences of online learners, for future planning and coordinating of online supportive environments for weight management success.

1) The computer program or website that is being used should be *user friendly* including a detailed list of instructions and/ or directions. Ideally there should be a preparation class either online or face-to- face, allowing hands on learning to occur.

2) Administrative support needs to be available and open to feedback from participants.

3) The facilitator should provide clear expectations for the online learning environment. For example, how to interact, how often and with whom. Ambiguity with how to give feedback can lead to poor interaction between peer learners. Peer feedback needs to be encouraged and may take much probing from the facilitator.

4) Feedback from the facilitator and/or peers has to be timely (within 24 hours), positive and / or constructive. Some type of feedback is very important.

5)   The learning environment needs to be safe and comfortable. Comfortable to speak freely and openly. Participants should never feel judged. If the participants have a common interest and / or are coming from similar life experiences this can help make it a comfortable environment. It is the responsibility of the facilitator to keep it professional and supportive.

6)   Participants should be given guidance on how to interact. An internal gain should be expected. The facilitator may need to challenge participants to take this step. It is easier and more expected for participants to focus on external motivators.

7)   The facilitator should take care not to take the lead and to stay in the facilitator's role. The facilitator's role is to participate as a learner not to be the knowledge vessel but rather to share and encourage sharing of experiences for learning to occur.

Future Research Opportunities

The study provides in depth qualitative data based on learner experiences. From this data themes emerged and valid assumptions were made which led to a comprehensive list of recommendations. However, to make further impact in the arena of weight management, online learning and learning style there is opportunity for future research. With the data collected and conclusions made from this research, a comprehensive program could be developed based on the needs that were voiced by the learner, an emic perspective. A comparative study could be performed with two groups

of online weight managers: one using an online / collaborative approach and one using an online knowledge resource approach. The outcomes could help to better understand what the needs of the weight manager truly are, an internal support or assistance with external monitoring?

Appendix A
Recruitment letter:

October 3, 2003

Melissa Tolan-Halleck RD
300 N Clippert Suite 15
Lansing, MI 48912

To whom it may concern-

My name is Melissa Tolan-Halleck, and I am a graduate student at Michigan State University. I am working on research related to online education and program implementation. As the program coordinator of Sparrow Weight Management Center, I am writing to ask your assistance in providing information that could be very helpful toward improved program development and weight management intervention outcomes. Your time and honest feedback will be beneficial to my efforts and appropriate programming in the future.

Your participation in this study is voluntary. The study will consist of one short interview and participation in Sparrow Weight Management Center's *eweightmanager*, the online component of the maintenance program which is at no additional charge to you. Participation in the eweightmanager discussion board forums is at your discretion, the time commitment is variable depending on your desire for participation. The interview process will take about 2 hours.

It is important that you understand that your participation is completely voluntarily and will have no affect on your relationship as a patient with Sparrow Weight Management Center. If you are interested, in participating, please contact me by phone or email by November ____ 2003, you can reach me at 364-8086 or melissa.tolan@sparrow.org.

The confidentiality of your information may be a concern for you, I ensure your confidentiality in any analysis and report. I will be the one analyzing and writing the report, and therefore, after the report is written all documents with your name or address will be destroyed. Your privacy will be protected to the maximum extent allowable by law.

Thank you in advance for your cooperation. Please feel free to contact Dr. Robbert Hugget, Chair of the University Committee on Research Involving Human Subjects at (517) 355-2180 if you have questions about your role and rights in this study.

Sincerely,
Melissa Tolan-Halleck

Appendix B

Interview Guide

1. Why did you choose to sign up for the *eweightmanager*?

    ♦ How did you hear about the *eweightmanager*?

    ♦ What were your first thoughts about the idea of online learning?

2. What expectations do you have for the *eweightmananger*?

    ♦ Internal and external? (To increase internal motivation- how? or obtain external goals- how?)

3. How do you feel when you are online with the *eweightmanager* discussion board?

    ♦ How does this participation help or hinder your state of mind

    ♦ Do you feel this participation effects your day one way or another- and how?

4. How do you most like to learn?(in general)

    ♦ To talk and participate or to listen and absorb… ?

    ♦ What keeps you interested in a subject matter? (with learning in general)

5. What you are doing online with the *eweightmanager*, do you consider this learning ?- please explain.

   ♦ What is the most important thing you have learned since being enrolled in the *eweightmananger*?

6. How have other online group members affected you (positive or negative) and your weight management efforts?, please explain.

   ♦ How did you participate?

   ♦ Did you receive feedback from others, what did this feel like?

7. Is the role of the facilitator or discussion board administrator important to your continued use of the *eweightmanager*? Please explain.

   ♦ What did he/ she do to help or hinder your weight management efforts?

8. Overall how has your experience with the *eweightmanager* affected your weight management efforts?

   ♦ = probes

Appendix C

<u>Contact Summary Form</u>

Contact type: Interview **With whom:** S1 **Interviewer:** Melissa Tolan-Halleck
Site: Conference Room
Contact Date: **Today's Date:** 3-20-04

1. What are the main issues or themes that struck you in this contact?
   - Consider age and degree of experience younger peers have with techno savvy stuff
   - When focused it is easier to concentrate on the day to day, which decreases the chance of disappointing self.
   - EWM inspires self talk
   - Face-to- face is ideal but EWM like a safety net- when unable to make a face-to- face class
   - Enjoy learning through discussion and it has to be relevant. A challenge enjoyable and a conscious choice help keep interest in a topic
   - Facilitators role is important with keeping the discussion organized and factual, SJ is a facilitator and hopes her role is viewed as important also, but not the end all.

2. Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Convenience and to keep contact were reasons for signing up. Expectation is help maintain focus on new healthy lifestyle, gain support and use as a resource for schedules of classes ect.
Initial thoughts of EWM	Intimidated secondary to age and younger colleagues being very techno savvy, but also realized it could be a great way to communicate with others without the inconvenience of driving out of my way.
Internal vs. External learning	To gain insight, reinforcement- not to learn new facts
How has actual participation online effected weight management efforts	Inspires self-talk when reading or responding to the forums. Convenient, however face-to- face is best but having EWM available allows for a safety net when unable to get to face-to- face meetings. EWM has allowed for easier connection/ focus of goals, it is there when I need it. It has allowed me to stay focused day by day- a realistic expectation, which

	decreases the chance to disappoint myself by breaking my plan. The most important thing I have learned from the EWM is support and reassurance. Has not hindered efforts
Learning; style, enjoyment, continued interest in a subject	Learn through discussion, this is what I know; it is how we learn at work. I talk in a class situation as often as needed. When feelings of frustration come up, discussion is a way to let it out. To stay interested it has to relevant, enjoyable and a challenge. A challenge that I have made a choice to commit to.
Viewed role of the facilitator on the EWM	Yes- to help organize the conversation and provide factual information

3   Additional interesting points
- SJ likes a challenge- she considers learning a challenge
- Online learning takes more thought- always think before putting something in writing.
- FACE-TO- FACE learning easier b/c you acknowledge what you are saying as you say it
- Desires more focus on her self with this lifestyle change- rather then focus on external dieting practices

4.   What new or remaining questions

<u>Contact Summary Form</u>

Contact type: Interview **With whom:** A2 **Interviewer:** Melissa Tolan-Halleck
Site: Conference Room
Contact Date: **Today's Date:** 3-20-04

2. What are the main issues or themes that struck you in this contact?
   - Love online learning, very comfortable with it
   - Like EWM idea and not needing to be physically present, self conscious of others perceptions secondary to less weight to lose.
   - Expected to get answers to questions from professional staff
   - Negative experience with EWM secondary to participation only during first several weeks- and still working through technical issues
   - Felt alone when online
   - Easily distracted, I need to read in order to absorb it
   - Commitment and interest keep me interested in learning
   - View facilitator as the teacher with the knowledge to share
   - Positive aspect of online vs. face-to- face is the anonymity

2. Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Easier method to stay connected and do the maintenance phase of the program- also more convenient with busy work schedule and location. Expectations to ask questions and have them answered by staff
Initial thoughts of EWM	Initially loved the idea- very comfortable with the Internet. Liked the idea of not having to come to face-to- face classes- due to negative people.
Group interactions	FACE-TO- FACE groups could be negative, felt judged due to physical appearance. Discussion in face-to- face groups were beneficial, would often learn just from listening and responding to others. Barrier could be that colleagues may be present in-group - due to a large health organization, anonymity online is nice.
Internal vs. External learning/ motivation to learn	Hoped to get insight from others- how to they deal or cope
How has actual participation online effected weight management efforts	Felt alone- like I was typing into some nothing- it was very unclear how to use it. Overall no negative effect on weight

	management efforts, people were positive and if not the facilitator brought it around to be a positive learning experience. Helped to see how others reacted to different situations and how the facilitators responded. I have learned to stay engaged
Learning; style, enjoyment, continued interest in a subject	Read it in order to absorb it- although discussion is good- I like to talk, but I'm distracted very easily. Consider weight management efforts learning. To stay interested in a subject I have to make a commitment and it has to be interesting- I like to problem solve if there is a better way to do things. Commitment if not personal interest- I'm a goal setter and goal achiever. Seeker of knowledge- I like to know why...
Viewed role of the facilitator with the EWM	Most important role- I want to know the answer- peer learners help get more out of the facilitator

3   Additional interesting points
   ◆   Suggested having more introduction to EWM in a class format prior to
        maintenance phase
   ◆   Set time for chat online would be nice for busy schedule and desire for
        immediate response
4   What new or remaining questions

<u>Contact Summary Form</u>

Contact type: Interview **With whom:** G3 **Interviewer:** Melissa Tolan-Halleck
Site: Coral Gables
Contact Date: **Today's Date:** 3-20-04

What are the main issues or themes that struck you in this contact?
- Hoping to gain others' experiences, ideas reactions from the EWM
- Support whenever needed was appealing, finished the program but knew I was far from done
- Comfort with the Internet
- Feelings of freedom and openness when online, ability to just "let it all out"- when speaking it is difficult to " delete and go back"
- Negative comments and whining would make me feel bad however constructive comments are OK - but not criticizing.
- Not confrontational - would "back off" from situation
- Comfort in knowing that there is always support and reassurance with the EWM
- Getting ideas from others is learning
- EWM as a continuation of FACE-TO- FACE groups
- Hearing others' responses causes a rethinking of own actions
- Feelings of monopolizing conversation would cease conversation in groups
- Internal motivation/ self care encourages positive external self care

2.   Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Convenience, to provide a sense of community, always available, a listening ear
Initial thoughts of EWM	Apprehensive, not sure what to expect- not familiar with online learning- more experience with shopping online and email. However topic very relevant and professional staff at the center encouraging it eased initial apprehension. Looked forward to sharing and having additional resources. Positive overall
Group interactions	Talked a lot in face-to- face classes- some times would stop due to feelings of

77

	monopolizing the group conversation. Online haven't felt this way- different b/c the individuals who are not participating are not visual to you.
Internal vs. External learning/ motivation to learn	Hoping for internal gains- but realized that internal gains benefits external motivators/ measures
Participation online and the effect on weight management efforts	Online communication is open and encourages confidence in what is being said- easier to "let it all out". A free feeling when communicating online- unlike when talking face-to- face, more thought is given before speaking" can't delete spoken words". Participating in EWM hasn't hindered wt mgmt efforts- feel bad when participants complain about program- (non-constructive comments). Reassurance from individuals on the EWM feels good. Constructive feedback helps learning, and confrontation would inhibit learning. (EXPLORE FURTHER_ HOW SHE DEFINES CONFRONTATION) Comforting that a question can always be asked- helps with awareness inspires self-talk and rethinking of actions or thoughts. Have gained a sense of community. EWM is like a continuation of the face-to- face groups.
Learning; style, enjoyment, continued interest in a subject	Visual Learner, Can read and learn but discussions are great, helpful to listen to others ideas/ perspectives, problem solving. To stay interested it has to be enjoyable, have a purpose and be desirable. Doing well is motivation to continue.
Viewed role of the facilitator on the EWM	To validate ideas, thoughts act... comforting to know that someone is overlooking things and responding

5 Additional interesting points
    ♦
6 What new or remaining questions

<u>Contact Summary Form</u>

Contact type: Interview **With whom:** M4 **Interviewer:** Melissa Tolan-Halleck
Site: The Cracker Barrel
Contact Date: **Today's Date:** 3-20-04

1. What are the main issues or themes that struck you in this contact?
    -   Very rule oriented- likes structure/ causes stress if unable to follow structured plan for the day
    -   Only experience with eweightmanager was part of a class assignment
    -   Sensitive to others responses/ self -conscious- like interaction but not the attention of center stage
    -   Enjoy typing, a freeing experience, not too much thought
    -   Strong determination- failed at weight management attempt before will not let it happen this time - will continue regardless of fun / interest- for my health
    -   Seeing, touching being heard are very important

Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Part of class, was asked to sign on. Insight that others are in a similar situation, not in it alone. Acceptance. To gain others perspectives
Initial thoughts of EWM	EWM could never replace face-to- face for me. Not good initial thoughts, constant verbal talking is helpful for me rather then reading. Thought it would be passive learning rather then interactive. Initially didn't think it would work.
Group interactions	Much easier for me to type then to talk in face-to- face class. Comes easy for me to type a response- I can review it after I type freely before sending it. Helps to know the person you are responding to online.
Internal vs. External learning/ motivation to continue learn	See EWM as more of a supporter not a place to get in depth information
Participation online and the effect on weight management efforts	Felt good online, "fingers did the walking" able to just type and type as long as their were things on my mind- "easy for me". Had a positive effect on the whole day- getting thoughts out and not holding them in. Viewed as time for self care- reflection ect... When online participating, others hear what I'm saying, I get my point across-

	this interaction feels good. Feels good to be understood and responded to. The potential to learn something daily- I can always learn and/or have contact. Technical problems are frustrating (SHOULD PROBE INTO THIS MORE).
Learning; style, enjoyment, continued interest in a subject	Enjoy learning in a small group- discussing is good but don't like to be on stage. Keep interest by determination - knowing that I have to do it- age and health are factors in this determination not to fail. She is not sure what is driving her to continue this learning process- she is puzzled herself but very determined (NEEDS MORE PROBING AND TIME). Learning must be occurring on EWM otherwise I wouldn't want to continue. Receiving advice is learning. Learning new information from others. EWM has allowed me to get emotions and thoughts out until I want to stop.
Viewed role of the facilitator on the EWM	It is their job to confront uncomfortable situations or individuals. Unsure if participant could get the point across to some people. Prior face-to- face exposure to facilitator plays a role.

Additional interesting points
   ♦
What new or remaining questions

Contact Summary Form

Contact type: Interview **With whom:** N5 **Interviewer:** Melissa Tolan-Halleck
Site: Conference Room
Contact Date: **Today's Date:** 3-20-04

1. What are the main issues or themes that struck you in this contact?
♦ Much familiarity with message boards ect.
♦ Working hard to diminish strict diet mentality
♦ Busy with career and family and finding time for positive self care takes much effort
♦ Considers weight management success, lifestyle change a long term commitment

Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Convenient, fits into schedule. Reassurance that you are "not in it alone". Learn from others going through similar situation. To keep focused and grounded. To challenge the thoughts and processes of old/ bad habits.
Initial thoughts of EWM	Good thoughts, I have a lot of familiarity with discussion boards, I've always found them useful- will be helpful to get thoughts from others going through similar situations
Group interactions	Face-to-face groups can include monopolizing of conversation- Facilitators were good at redirecting this behavior. Haven't felt monopolizing behavior on EWM
Internal vs. External learning/ motivation to continue learn	Looking for more internal focus, I'm trying to defocus the scale and typical diet mentality. Looking for more changes within. Empowering self with knowledge- gained from the EWM, to make good intuitive choices.
Participation online with EWM and the effect on weight management efforts	Feels like I'm taking control- when online it is my time to take a break from the day and put myself 1st. Would hinder efforts if giving misinformation. Active learning vs. passive learning, keeps me focused and conscious. Effects my whole day by giving me the sense of control. When having a conversation with someone online it gives

	the buddy effect and the facilitator responding gives professional knowledge. EWM is an extension of the whole program, a refresher. EWM is learning more about self and gaining information from others by listening and sharing. Reaffirms my knowledge
Learning; style, enjoyment, continued interest in a subject	I enjoy hands on and demonstration. I also am a big reader- I seek out all the info I can find on a topic that interests me. Self-motivated. I like to ask questions after reading to help with interpretation. I stay interested by seeing results- or accomplishing goals.
Viewed role of the facilitator on the EWM	Important to respond - if no response at all person may take it personal. Facilitator should not be the only one responding, peer feedback is also important. Constructive or challenging response may help motivate a person into the action stage.

Additional interesting points

What new or remaining questions

Contact type: Interview **With whom:** S6 **Interviewer:** Melissa Tolan-Halleck
Site: Drollette Travel
Contact Date: **Today's Date:** 3-20-04

1. What are the main issues or themes that struck you in this contact?
   ◆ People crave high touch- some reservations with online learning due to this need
   ◆ Frustrated with EWM in early stages, hasn't given much time to it since.
   ◆ Learn from adults own personal experiences
   ◆ Critical of facilitators due to own experience as a facilitator
   ◆ Feel bad that I couldn't figure out EWM - an introduction would have been helpful

2. Summarization of information obtained or not obtained, based on each focus question

Question	Information
Expectations of EWM	Support, not my soul support but helpful. Should be easy to use, offer solutions and positive opinions. Time is valuable, therefore EWM needs to be quick to work with- otherwise I go on to the next thing
Initial thoughts of EWM	Comfortable with email and chat rooms, but some reservation due to lack of face-to-face interaction- feel face-to- face is important. Hard to maintain if not impossible to provide the high touch that people crave
Group interactions	I feel comfortable speaking out in face-to-face groups- sometimes hold back b/c I don't want to monopolize conversation, even though I have something to say. Some facilitators are better then others at re- directing discussion. I struggle with this b/c of my experience as a facilitator. I don't want to be the person always talking or with their hand up. Online this could feel the same- I'm not sure. However, the insecurities some people have of speaking in front of others wouldn't be there online
Internal vs. External learning/ motivation to continue learn	Emotional support not to gather more factual knowledge
Participation online with EWM and the effect on weight management efforts	Neither helped nor hindered efforts- disappointing that I couldn't figure out how

	to use it. Not being user-friendly caused frustration and a stop to using the EWM. The time I attempted to participate I never knew if someone had read my post or if I received feedback
Learning; style, enjoyment, continued interest in a subject	Reading, Investigating on my own and then discussing it with individuals who have different experiences- professionals or experts in their area particularly. I stay interested by learning everyday from other adults and by keeping up on my reading and investigating. Information has to relevant to my phase in life at the moment. "EWM could be learning if I could figure out how to use it"
Viewed role of the facilitator on the EWM	Important to guide discussion- stay on task

REFERENCES

Allee, J.G. (1984). *Webster's Dictionary*. (1985 ed.).Baltimore MD: Harbor House Publishers Inc.

Barab, S., & Duffy, T. (2000). From Practice fields to communities of practice. *Theoretical Foundations of Learning Environments*. 1-26. Mahwah, NJ: Lawrence Erlbaum.

Bruffee, K. A. (1999). *Collaborative Learning: Higher education, interdependence, and the authority of knowledge*.(2nd ed.). Baltimore, MA: The John Hopkins University Press.

Christiansen, E., & Dirckinick-Holmfeld, L.(1995). *Making Distance Learning Cooperative*. [online], http://www-csl95.indiana.edu/csl95/chritia.html.

Chute, A.G., Thompson, M.M., & Hancock, B.W. (1998). The McGraw- Hill Handbook of Distance Learning. New Yrok, NY: McGraw- Hill.

Cooper, Z., & Fairburn, C.G. (2001). A new cognitive behavioral approach to the treatment of obesity.*Behavioral Research and Therapy*, 39, 499-511.

Derlega, V.J., & Margulis, S.T. (1983). Loneliness and intimate communication. In D. Perlman & P.C. Cozby (Eds.), *Social Psychology*. New York: Holt.

Dewey, J. (1938). *Experience and Education*. New York, NY: Macmillan Company.

Durham, D. S. (1988). *Relating to Others*. London: Open University Press

Eastmond, D.V. (1995). *Alone but together: Adult distant study through computer conferencing*. Creskill, NJ: Hampton Press, Inc.

Firestone, W.A. (1987) Meaning in method: The rhetoric of quantitative and qualitative research. *Educational Research, 22(*4), 16-23.

Garland, M.R. (1993). Student perceptions of the situational, institutional, and dispositional and epistemological barriers to persistence. *Distance Education, 14*(2) 81-98.

Golub, J. (1988). *Focus on Collaborative Learning: Classroom Practices in Teaching English*. Urbana, IL: National Council of Teachers of English.

Guba, E.G., & Lincoln Y., S. (1989). *Forth Generation Evaluation*. Newbury Park, CA: Sage.

Hansman, C.A. (2001). Context-based adult learning. In S.B. Merriam (Ed.), The New

update on adult learning theory. *New Directions for Adult and Continuing Education,* San Francisco: Jossey- Bass.

Hirschbuhl, J., Zachariah, S., & Bishop, D. (2002) Using knowledge management to deliver distance learning. *British Journal of Educational Technology,33,* 89-93.

Iscoe, I., Hill, F.E., Harmon, M., & Coffman, D. (1979). Telephone Counseling via cassette tapes. *Journal of Counseling Psychology. 26,* 166-168.

Kuczmarski, R.J. (1992). Prevalence of overweight and weight gain in the United States. *American Journal of Clinical Nutrition,* 495-502.

Knowles, M. (1975). *Self Directed Leaning: A guide for learners and teachers.* Englewood Cliffs, HJ: Cambridge Adult Education.

Merriam, S., & Caffarella, R.M. (1999). *Learning in adulthood: A comprehensive guide* (2nd ed.). San Francisco, CA: Jossey-Bass.

Mezirow, J. (1990). *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning.* San Francisco, CA: Jossey-Bass.

Mezirow, J. (1991) *Transformative Dimensions of Adult Learning.* San Francisco: Jossey-Bass.

Mezirow, J. (1997). Transformative learning: theory to practice. *New Directions for Adult Continuing Education. 74,* 5-12.

McIsaac, M. V., & Gunawardena, C. (1996). Distance education. In D.H. Jonasssen (Ed.) *The Handbook of Research for Educational Communications and Technology.* 403-437. New York, NY: Mcmillan.

Mustajoki P., & Pekkarinen T. (1999). Maintenance programs after weight reduction: How useful are they? *International Journal of Obesity, 23,* 553-555.

Neuman, W. L. (1994). *Social research methods: Qualitative and Quantitative Approaches* (2nd ed.). Boston, MA: Allyn & Bacon.

Obarzanek, E. (2003). *NHLBI Study Tests Novel Ways To Help Americans Keep Weight Off.* [online], http://www.nih.gov/news/pr/jul2003/nhlbi-14.htm

Oliver, R., Omari, A. &, Herington, J. (1998). Exploring student interactions in Collaborative world wide web computer-based learning environments. *Journal of Educational Multimedia and Hypermedia, 7* (2-3), 263-287.

Palloff, R. M., & Pratt, K. (1999). *Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom.* San Francisco: Josssey-Bass.

Patton, M.Q. (1987). *Qualitative Research Methods and Evaluation*. Newbury Park, CA: Sage Public.

Perri, M.G., McAdoo, G. A., Spevak,P.A., & Newlin, D.B. (1984). Effect of a multi-component maintenance program on long term weight loss. *Journal of Consulting and Clinical Psychology, 52*(3), 480-481.

Perri, M.G. (1998). The maintenance of treatment effects in the long -term management of obesity. *Clinical Psychology: Science & Practice*, 5, 526-543.

Regional networking meetings: A great opportunity for learning. (2002, summer). Bight Ideas, Novartis, 7(2).

Rubin, H.J., Rubin, I.S. (1995). *Qualitative interviewing, the art of hearing data*. London:Sage publications.

Saba, F. (1998). Is distance education comparable to "traditional" education? *Distance Education Report*,(3).

Sampson, Jr., J.P., Kolodinsky, R.W., & Greeno, B.P. (1997) Counseling on the information highway: future possibilities and potential problems. *Journal of Counseling and Development. 75(3)*, 203-212.

Sbrocco, T. Nedegaard, R. C., Stone, J.M.,& Lewis, E.L. (1999). Behavioral choice treatment promotes continuing weight loss: Preliminary results of a cognitive-behavioral decision-based treatment for obesity. *Journal of Consulting and Clinical Psychology*, 67, 206-266.

Stuart, R.B. (1980). Weight loss and beyond: Are they taking it off and keeping it off? *Behavioral medicine: Changing health lifestyles*. New York, NY: Brunner/Manzel.

Tinto, V., Goodsell-Love, A., & Russo, P.(1994). *Building learning communities for new college students: A summary of research findings of the collaborative learning project*. University Park, PA: National Center on Post Secondary Teaching, Learning, and Assessment.

Twigg, C. (1994). The Changing Definition of Learning. *Education Review*, 29(5).

Van Gelder, M. (1996). The strange case of the electronic lover. In R. Kung (Ed.), *Computerization and Controversy*. London: Academic Press.

Vygotsky, L.S. (1978). In Cole, M., Seribner,S. and Souberman,E. (Eds.), *Minds in Society*. Cambridge, MA: Harvard University Press.

Wadden, T.A., Foster, G. D., &Letiza, K.A. (1994) One-year behavioral treatment of

obesity: Comparison of moderate and severe caloric restriction and the effects of maintenance therapy. *Journal of Consulting and Clinical Psychology,* 62, 165-171.

Wadden, T.A.,& Stunkard, A.J. (2002). *Handbook of Obesity Treatment.* New York, New York: The Guilfird Press.

Warf, B., Vincent, P., & Purcell, D. (1999). International collaborative learning on the World Wide web. *Journal of Geography, 98*(3),141-148.

Wilson, G. T., & Franks, C. M. (1982). *Contemporary behavior therapy: Conceptual foundations of clinical practice.* New York, NY: Guilford Publishers.

Wing, R. R., Blair, E., Marcus, M. Epestein, L. H., & Harvey, J.(1994). Year-long weight loss Treatment for obese patients with type-II diabetes: Does inclusion of intermittent very low calorie diet improve outcome? *American Journal of Medicine,* 97, 354-362.

Wing, R.R. (1989). Behavioral strategies for weight reduction in obese type II diabetic patients. *Diabetes Care,* 12, 139-144.

Yeok-Hwa, K.(1998) *Enhancing student thinking through collaborative learning.* US, Indiana, Eric Clearinghouse Digest.