Applying the Andragogical Model of Adult Learning:
A Case Study of the Texas Comptroller's Fiscal Management Division

by

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Abstract

The training offered by the Fiscal Management Division constitutes a significant cost for the Texas Comptroller of Public Accounts. According to Malcolm Knowles's andragogical model of adult learning, adult learners should be taught differently than child learners. The purpose of this research is three-fold. First, the components of an andragogical class are developed and explained. Second, regularly scheduled Fiscal Management training classes are assessed using the components. Third, recommendations on ways to improve the training classes are offered.

Data collected from a focus group of Fiscal Management trainers and a Web-based survey of students are used. The trainers were asked about their classes in general terms. Their opinions are compared to the components of an andragogical class. Students were asked about each particular class they attended. Survey results are compared to pre-established benchmarks in order to generalize whether students believe that Fiscal Management training classes parallel each component.

The data reveals that the Fiscal Management training classes do not align with the andragogical model. Even so, at least one of the two groups expressed opinions that align with the model on five of the six components. By following the recommendations presented, trainers can bring their classes closer to the model.

About the Author

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Chapter 1 – Introduction

The Comptroller of Public Accounts oversees the accounting operations for the State of Texas. With the exception of accounting events involving multiple state agencies such as cost allocations and hotel tax refunds, the Comptroller's staff generally does not perform the state's day-to-day accounting duties. Rather, the agency sets statewide accounting policy and ensures its implementation. As a measure to safeguard the state's money, the Comptroller's Fiscal Management Division conducts training classes to keep personnel in other agencies informed about policies and procedures under the Comptroller's jurisdiction.

The most prominent component of the Fiscal Management Division's training program is its regular slate of classes. Fiscal Management trainers teach a wide array of courses on topics such as expenditure policy, data entry into the statewide accounting systems, and timeframes for paying vendors.

The Fiscal Management Division spends about $144,243 on training each year. This figure may seem like a relatively small amount compared to the Texas Comptroller's fiscal 2007 appropriation of $191,374,687, but the citizens of Texas care that every dollar is spent effectively. To expend every training dollar according to this sentiment, trainers must take into account how adults learn. While conducting training classes in this manner is no guarantee for success, it does mitigate against failure.

The Fiscal Management Division employs two full-time training support personnel, which cost about $97,760 per year.[1] Based on data taken from the Fiscal

[1] This amount is based on an average annual staff cost of $48,889.93 in the fiscal 2007 appropriations for the Texas Comptroller of Public Accounts ($48,890 x 2 employees = $97,760). The average annual staff cost is based on the fiscal 2007 total personnel cost divided by the full-time employee cap ($141,624,356 /

Management Training Center for the period of September 2006 to March 2007, trainers spend about 843 hours per year conducting regularly scheduled training. Since most classes are taught by two trainers, this time costs the Fiscal Management Division approximately $39,621 annually. For most classes, trainers need an hour to set up the training room. Because many trainers teach classes two days in a row, not all classes require much set-up time. Trainers perform approximately 86 set-ups per year, which costs about $4,042. The trainers and training support staff meet quarterly as a group to discuss training issues. These meetings last roughly ninety minutes. Besides the two training support staff, about twenty trainers attend each meeting. Therefore, the quarterly meetings cost about $2,820 annually.

Quantifying exactly how much the Fiscal Management Division spends on training is difficult. Affixing a dollar amount to costs like training preparation time, class materials, and classroom space is problematic. Training preparation time can vary based on the experience of the trainers, the newness of the class, and difficulty of the course content. Class materials are not segregated from other office supplies in the Division's budget. Classroom space is shared with another division.

Purpose

A mistake trainers often make is teaching adults like they would teach children. This situation is frustrating for adult learners and is an almost certain roadblock to adult students' motivation. One adult learning theory that has garnered a considerable amount of attention over the past few decades is the andragogical model of adult learning.[2] This

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2,896.8 employees). The average annual staff cost breaks down to $23.50 per hour when the annual cost is divided by 2,080 work hours per year.

[2] See Boulton-Lewis et al. 1996, Conway et al. 1994, Daloisio and Firestone 1983, Harris 2000, Rager 2003, Sutherland 1998a, Wilson and Hayes 2002.

model is profitable for evaluating whether training classes take into account how adults learn.

The purpose of this research is three-fold. First, the components of an andragogical class are developed and explained. Second, Fiscal Management training classes are assessed using the components. Third, recommendations on ways to improve the training classes are proposed.

Other Opportunities for Learning in Public Administration

Besides training employees, there are plenty of other opportunities to apply adult learning principles in public administration. Clients and customers pose intriguing learning situations. For example, the Texas Building and Procurement Commission provides training to vendors on how to do business with the state; the Texas Department of Criminal Justice is charged with rehabilitating offenders to prepare them for re-entry into society; and the Texas Comptroller's Fiscal Management Division provides training to accounting personnel in state agencies.[3]

At times, citizens seek information from public administrators. To provide this information, administrators sometimes conduct training for the general public. For instance, a public health agency could hold a seminar on vaccines it provides, or a community college could hold an information session on the continuing education classes it offers. Public administrators also provide training that is tangentially related to their official functions. For instance, a police department could offer classes on firearms safety, or a municipal utility department could suggest tips on energy-saving home improvements.

[3] For this research, the term "state agencies" includes state institutions of higher education unless specifically stated otherwise.

Additionally, public administrators train elected officials. The Texas Municipal League (2006), a nonprofit organization that helps municipal governments, provides various types of training for elected officials through their Texas Municipal League Institute program. The Texas Attorney General (2006) provides open records training to elected and appointed public officials.

In the Coming Chapters

This chapter has shown the significant cost of Fiscal Management training and the pervasiveness of training in the public sector. No matter what training is conducted, the training goals are more likely to be achieved when the training adheres to adult learning principles. The andragogical model of adult learning is a valuable tool that can be used to assess whether a particular training program takes into account adult learning principles.

The next chapter details the training offered by the Fiscal Management Division. The third chapter is a literature review that develops the components of an andragogical class from the assumptions about adult learners in the andragogical model. The fourth chapter discusses the methodology used in this research. The fifth chapter presents the research findings. The final chapter draws conclusions from those findings and outlines recommendations on ways to make the classes more closely align with the components of an andragogical class and therefore the andragogical model of adult learning.

Chapter 2 – The Fiscal Management Division

The Texas Comptroller of Public Accounts' Fiscal Management Division oversees statewide accounting operations and assists the Comptroller in carrying out her constitutional role as the state's chief accountant. The Comptroller is directly elected by the citizens of Texas, and is one officer in Texas's unique plural executive.

Of the Comptroller's roughly 2,900 employees, the Fiscal Management Division contains 188, two of which are devoted to training full-time and twenty-nine who develop and conduct training as part of their job duties.[4] In fiscal year 2006, Fiscal Management trained 1,435 students in 150 regularly scheduled classes.[5] Direct Deposit Process, Introduction to Travel, Security Coordinator Administration, and State Government Salary Administration Policies are just a few of the twenty-seven course offerings.

Only the regularly scheduled training is examined in this research. The other facets of the Fiscal Management training program are specialized training and Web-based courses, but they are outside the scope of this research. [6]

The second purpose of this research is to assess Fiscal Management training classes using the components of an andragogical class. This chapter provides an overview of the Fiscal Management training staff, regularly scheduled training classes, and students who attend the classes.

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[4] In the General Appropriations Act for fiscal years 2006-2007, the Texas Comptroller is limited to no more than 2,893.8 full-time equivalent employees (FTEs) in fiscal 2006 and 2,896.8 FTEs in fiscal 2007.
[5] This data was taken from an internal memorandum on Fiscal Management training in fiscal 2006.
[6] Agencies can request specialized training through Training Center. Once an agency submits a request, a trainer works with the agency to tailor a course to meet the agency's need. Typically, a specialized class is either slightly altered version of a regularly scheduled class or a collection of portions of regularly scheduled classes. Web-based courses are essentially a succession of informational Web pages with an exam at the end to ensure that someone taking the course has reasonably mastered the material. As of March 2007, a handful of trainers in the Claims Division were working on producing training videos that could be distributed online or via e-mail, CD, or DVD.

Fiscal Management's Training Staff

In addition to monitoring and reporting on all state expenditures, some Fiscal Management Division staff members plan and conduct training classes as part of their duties. [7] Fiscal Management trainers are subject matter experts on the class material. Training is merely one of their duties. Not all subject matter experts are trainers. Of Fiscal Management's 171 front-line employees, only twenty-nine are trainers.[8]

Three divisions make up the Fiscal Management Division – Claims, Fund Accounting, and Fiscal Systems.[9] The Claims Division's primary function is to process payments for state agencies. To ensure that those claims are legitimate, the division audits a sample of each agency's payments every few years. To improve compliance with laws, rules, and policies and to prevent unfavorable audit findings, the division provides training classes in expenditure, travel, and payroll policy; payment security; and payroll and payee information systems.

The Fund Accounting Division helps agencies stay within their budgets, produces the Comprehensive Annual Financial Report, executes statewide accounting transactions, and monitors capital assets. To aid agencies in these areas, the division conducts classes in accounting information systems and financial reporting.

The Fiscal Systems Division supports the statewide accounting system and subsystems and disseminates information to state agencies. This division teaches classes on accounting system security.

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[7] I am a trainer in the Claims Division. Because of this position, I have access to internal documents and institutional knowledge. I teach four classes: Basic Expenditure Processing and Documentation, Advanced Expenditure Processing and Documentation, Comptroller Expenditure Object Code Workshop, and Fundamentals of Expenditure Approvals and Certification.

[8] See Appendix A for organizational charts.

[9] Revenue Estimating was a division within Fiscal Management until early January 2007 when new Comptroller Susan Combs made it a stand-alone division reporting directly to her. Revenue Estimating does not offer any training.

Two training personnel report directly to the Fiscal Management Assistant Director – the training coordinator and the training liaison. The training coordinator maintains the Training Center, a secure training Web site within the Fiscal Management Extranet, and coordinates Fiscal Management's training program. Training Center is a Web portal that gives students one access point for Fiscal Management training (Wellborn 2006, 10). Among other things, students can view the schedule of classes, register for classes, evaluate the trainers and classes, and print certificates to verify their training credit to the Texas Board of Public Accountancy. The training liaison assists the training coordinator.

Training Classes

Classes generally start with an introduction to the course material, training facility, and timeline for the class. Trainers outline the topics they want to cover or the objectives they plan to accomplish. For instance, one objective in the Comptroller Expenditure Object Code Workshop is that participants will be able to assign object codes to expenditures.

To orient students to the training facility, trainers tell students the location of restrooms, water fountains, coffee pots, and telephones. Since most students are familiar with the building, trainers can cover these logistical items briefly.

Training classes vary in length from half a day to two days, but most classes are no longer than one day. A typical day-long class runs from 8:30 a.m. to 4:30 p.m. with a ninety minute lunch from 11:30 a.m. to 1:00 p.m. The late start time allows trainers extra time to make last-minute checks on equipment and materials. The early ending time allows trainers to clean the room before standard work hours end. The long lunch helps

people unfamiliar with the training facility and its surroundings find a suitable restaurant. A class includes a ten to fifteen minute break in both the morning and afternoon.

Trainers normally use some combination of lecturing, exercises, and games as methods of teaching and reinforcing material. In classes without computers, exercises are usually written quizzes. In computer-based classes, exercises tend to be scenarios where the students practice a task.

Games stimulate energy among the students and provide a fun way to reinforce the material. In the two expenditure processing and documentation classes, trainers use part of the day to lecture on specific sections in the *State of Texas Purchase Policies and Procedures Guide*.[10] To reinforce this material, students compete in games. In Basic Expenditure Processing & Documentation, students play a game based on the television game show *Jeopardy!*. Students in Advanced Expenditure Processing & Documentation play a version of the children's board game Chutes and Ladders. Teams of three to four students compete in answering questions based on the class material covered in the class.

Each class has no more the twenty students, but the average class size is about ten. The most obvious constraint on the number of students per class is the classroom size. The largest classroom used for regularly scheduled classes can comfortably accommodate twenty students, but many trainers choose to limit classes in that room to sixteen so that the trainers can use the spare tables to organize the class materials. This room is used for classes that do not require students to work at computers. While some trainers drastically re-arrange the furniture, the standard arrangement is four or five sets

[10] The *State of Texas Purchase Policies and Procedures Guide* is available online at https://fmx.cpa.state.tx.us/fm/pubs/purchase/index.php.

of tables scattered around the room. This arrangement allows groups of students to sit facing each other so that they can collaborate on exercises and games.

Computer-equipped rooms seat fourteen students in rows facing the projection screen at the front of the room. A trainer can teach from the front of the room while using the projection screen to show his or her computer desktop to the students. During exercises, a trainer can stand at the back of the room and monitor how each student progresses through the assigned tasks.

Fiscal Management Students

Students in Fiscal Management training classes are accounting personnel in state agencies. The training classes are diverse because they are designed to help professionals in accounts payable, payroll, travel, appropriations, financial reporting, and other areas.

Fiscal Management students have a variety of experience levels. Frequently, agencies send new employees to several training classes over the employee's first months on the job. This is particularly useful for students new to state government. Students who previously worked in the private sector are shocked at how different governmental accounting is from private sector accounting. More experienced students come to training in order to integrate recent policy changes into their knowledge, network with other state accounting professionals, and earn continuing professional education (CPE) hours. Managers sometimes take classes to assess their value for employees.

Most students appear to be willing learners. They listen actively, ask questions, and engage in learning activities. While the more experienced students may sometimes be challenging to teach because they want to dig deeper into the material than the allotted class time permits, they are good students to have in the classroom. They have insight

into the material that the trainers may not possess and may be able to answer questions that the trainers cannot.

Nevertheless, not all students are willing participants. Hostile students tend to be those who have been sent by their supervisors because of poor performance. Sometimes the poor performance is discovered through an expenditure audit performed by auditors in the Claims Division. Auditors frequently recommend training classes related to areas where agencies perform poorly on an audit. Particularly in small agencies, the unfavorable audit findings can at times be attributed to one or a few employees.

Apathetic students tend to be very knowledgeable but only attend to receive the CPE hours. Sometimes giving apathetic students chances to show off their knowledge gets them more involved in the class. A skilled trainer can transform an apathetic student from a warm body filling a seat to someone who can provide interesting stories and answers to questions a trainer may be unable to answer.

In the Next Chapter

The next chapter is a review of scholarly works on adult learning. It focuses on the andragogical model. From this model, the components of an andragogical class are developed. These components form a practical ideal type which is used to assess the regularly scheduled Fiscal Management training classes.

Chapter 3 – Literature Review

A literature review synthesizes the scholarly writings in a particular subject matter or field. The purpose of this literature review is two-fold. The first purpose is to explain the andragogical model. The second purpose is to show how the model translates into components of an andragogical class. These components are used as points of comparison between the andragogical model and actual adult learning activities. The model is the basis of the conceptual framework used to assess Fiscal Management training classes.

From the Andragogical Model to the Andragogical Class

Malcolm Knowles presents his assumptions about adult learning by comparing them with the assumptions of about teaching children. Knowles et al. (1998, 62) describe how the pedagogical model, the model used for teaching children, is focused on the teacher:

> The pedagogical model assigns to the teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned. It is teacher-directed education, leaving to the learner only the submissive role of following a teacher's instructions.

The term "andragogy" was first used in 1833 by German grammar school teacher Alexander Kapp (Knowles 1989, 79). Subsequently, the term was used by Eugen Rosenstock (1921), Eduard Lindeman (1926, 1927) in articles published outside America, Franz Poggeler (1957), and Knowles (1968). Knowles (1989, 80) considers his 1970 work *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* his

first "full-blown presentation" of the andragogical model.[11] Knowles and others continue to use the term.

Knowles (1989, 111-2) explains the foundational principles that guided his creation of the andragogical model:

> My own philosophical orientation has its roots in the humanistic, pragmatic, and existential frameworks of John Dewey, Eduard Lindeman, Abraham Maslow, Carl Rogers, and their associates, as I spell out in *The Adult Learner: A Neglected Species* (1984, pp. 85-105). I believe in the fundamental goodness of human beings, in their right to self-determination, in their almost infinite potential, in their latent ability to self-actualize, and in their innate ability to learn. I believe with Dewey in the central role of experience in learning and with Lindeman in the intrinsic relationship between learning and living. I also believe that environmental conditions can – and often do – inhibit the fulfillment of these beliefs and that part of the mission of adult educators is to influence environment.

The pedagogical model and andragogical model differ in six assumptions about learners. These include the learner's need to know, self-concept, experience, readiness to learn, orientation to learning, and motivation (Boulton-Lewis et al. 1996, 89-90; Knowles et al. 1998, 64-8).

In the pedagogical model, instructors determine what students need to know (Knowles et al. 1998, 62). The andragogical model takes a different approach. Adults must know why something is important before they will learn it (Knowles et al. 1998, 64). Based on this assumption, the first component of an andragogical class is that prior to instruction, students should be convinced of their need to learn.

The second variation between the two models is in the learner's self-concept. In the pedagogical model, the learner is dependent upon the instructor (Knowles et al. 1998,

[11] The book was revised in 1980 with a change in the subtitle from "Andragogy Versus Pedagogy" to "From Pedagogy to Andragogy" (Knowles 1989, 80).

62). On the other hand, the andragogical model assumes adult learners feel responsible for their own learning. Knowles et al. (1998, 65) explain further:

> Once they (adults) have arrived at the (independent) self-concept they develop a deep psychological need to be seen by others and treated by others as being capable of self-direction. They resent and resist situations in which they feel others are imposing their wills on them. This presents a serious problem in adult education: the minute adults walk into an activity labeled "education," "training," or anything synonymous, they hark back to their conditioning in their previous school experience ….

In light of this assumption, the second component of an andragogical class is that students are treated as if they are capable of self-directed learning.

The experience of the learner is the third feature that distinguishes between the pedagogical and andragogical models. The student's experience is usually of little value in a pedagogical setting (Knowles et al. 1998, 63). The teacher is the only source of knowledge. Conversely, the andragogical model places a high value on student experience (65-7). Students bring insight based on their prior life experience. Therefore, the third component of an andragogical class is that students' experience is valued.

The assumption about a student's readiness to learn is another difference between the two models. The pedagogical model assumes that "learners become ready to learn what the teacher tells them they must learn if they want to pass and get promoted" (Knowles et al. 1998, 63). On the other hand, the andragogical model assumes learners become ready to learn when they experience a need to know something that connects to their life situations (67). For that reason, the fourth component of an andragogical class is that instruction helps students cope with life situations.

The fifth difference between the pedagogical and andragogical models concerns to students' orientation to learning. In the pedagogical model, "learners have a subject-

centered orientation; they see learning as acquiring subject-matter content" (Knowles et al. 1998, 63). In the andragogical model, learners are problem-centered (67). This means that learning must relate to a problem that students see in their lives. Therefore, the fifth component of an andragogical class is problem-centered instruction.

The final difference between the two models involves student motivation. The pedagogical model assumes learners are motivated by external forces such as grades (Knowles et al. 1998, 63). The andragogical model assumes that learners will respond to external motivators as well; however, the most powerful motivators are internal pressures like job satisfaction and quality of life (68). The sixth component of an andragogical class is that students are motivated to learn by internal pressures primarily and external pressures secondarily.

Table 3.1 summarizes the differences between the pedagogical and andragogical models:

Table 3.1 –Pedagogical and Andragogical Assumption about Learners

Aspect	Pedagogical Model	Andragogical Model
1. Need to know	Learners need to know what the teacher tells them.	Learner need to know why something is important prior to learning it.
2. The learner's self-concept	Learner has a dependent personality.	Learners are responsible for their own decisions.
3. The role of the learner's experience	The learner's experience is of little worth.	The learner's experience has great importance.
4. Readiness to learn.	Learners become ready to learn what the teacher requires.	Learners become ready to learn when they see content as relevant to their lives.
5. Orientation to learning	Learners expect subject-centered content.	Learners expect life-centered content.
6. Motivation	Learners are motivated by external forces.	Learners are motivated by primarily by internal forces.

Source: Knowles et al. 1998 (62-8)[12]

[12] A similar table appears in Conway et al. 1994 (267) but was not referenced in creating this table.

A choice between pedagogy and andragogy is not necessarily mutually exclusive. Knowles et al. (1998, 62-3) recommend that teachers of children and youth increase the use of andragogical methods as students progress.[13] Pedagogical classes can benefit from employing some aspects of the andragogical model:

> Even dyed-in-the-wool pedagogical instructors have reported that their teaching has become more effective when they adapt some of the andragogical concepts to the pedagogical model; some ways they do this are by providing a climate in which the learners feel more respected, trusted, unthreatened, and cared about; by exposing them to the need to know before instructing them; by giving them some responsibility for choosing methods and resources; and by involving them in shared responsibility for evaluating their learning. (Knowles et al. 1998, 70)

Strengths, Criticisms, and Weaknesses of the Andragogical Model

The andragogical model has many strengths, chief among them its flexibility, broad applicability, the ability to take into account the perspective of the learner, and cohesiveness with other learning theories. The model is flexible because it can be applied in whole or in part taking into account that some situations dictate how material must be taught. Lessons that deal with the protection of human life call for strict indoctrination (Knowles 1989, 93). Therefore, a pedagogical approach may be necessary. However, the more a learning situation requires teaching a student complex matters, the more application of an andragogical approach makes sense. While the elements of the model are interdependent, they can be applied individually (113).

The model also has broad applicability. Since learning touches every field, the andragogical model touches every field. Take social work, for example. Social workers must teach parenting skills to parents whose skills are lacking. In order to most effectively transmit these skills, social workers should teach adults in ways that are

[13] Knowles et al. (1998, 63) use a rough graph showing that andragogical methods should be used as students age. However, age appears to be a proxy for cognitive development.

conducive to adult learning. The list of fields which adult learning – and therefore andragogy – touches could go on and on.

Another strength of the andragogical model is its ability to take into account the perspective of the learner. "Andragogy's core adult learning principles take the learner seriously. They go beyond basic respect for the learner and view the adult learner as a primary source of data for making sound decisions regarding the learning process," Knowles et al. (1998, 183) say.

The andragogical model is also cohesive with other learning theories. The model aligns with Bloom's taxonomy, constructivism, and transformation theory. Bloom's taxonomy encourages higher levels of thinking which falls in line with treating students as if they're capable of self-direction. Like the andragogical model, constructivism and transformation theory recognize the undeniable influence of an individual's experience on his or her learning.

Despite these strengths, some have criticized the model. A frequent criticism is that andragogy does not qualify as a theory; however, this assertion clearly hinges on the critic's definition of a theory. If one subscribes to Abraham Kaplan and John Dewey's approach, the andragogical model is a theory. They see theory as a tool that guides exploration of a problem at hand (Shields and Tajalli 2006, 315). This research supports the view that the andragogical model is a theory because it uses the model as a tool to explore how one particular training program teaches adults. Others have used the model to evaluate learning activities designed for adults. For instance, Tony Daloisio and Marsha Firestone (1983, 73-4) used the andragogical model to evaluate the American Management Association's Competency Program.

Another criticism leveled against andragogy is that it has not been tested empirically (Boulton-Lewis et al. 1998, 90; Knowles 1989, 113). Knowles (1989, 113-4) asserts there actually has been significant qualitative and quantitative research conducted on andragogy.[14] He questions his critics' use of the term "empirical," suggesting that their definition is too narrow. His critics see empirical research as being highly controlled where Knowles believes that empirical research is not limited to laboratories and other highly controlled environments.

Sutherland (1998a, 84-5) criticizes the andragogical model because he finds its ideas incompatible. Because the model assumes learners should be trained to be self-directed, some degree of dependence on the instructor remains. This criticism is flawed. If an instructor teaches a student to be self-directed, then that student can independently expand his knowledge of self-directed learning.

Another perceived incompatibility is between shared objective setting and self-directedness (Sutherland 1998a, 84). While the learner controls the content, the instructor controls the process. Therefore, the learning activity is not self-directed. This criticism is flawed as well. Knowles's definition of self-directed learning allows the learner to solicit aid from a helper (Knowles et al. 1998, 135-9). Shared objective setting allows for the student to direct the learning while tapping into the instructor's expertise.

Boulton-Lewis et al. (1996, 90) assert that "adults, particularly in formal learning situations, often do not appear to possess the characteristics that Knowles attributes to them." They cite a 1994 study that "found that university students view learning as a function of how much knowledge is gathered." It appears, however, that the students in

[14] For examples of research based on the andragogical model, see Boulton-Lewis et al. 1996, Daloisio and Firestone 1983, Harris 2000, Rager 2003.

the study have not had an orientation to self-directed learning. Therefore, the andragogical model could foreshadow this collective viewpoint.

So far, this section of the literature review has discussed strengths of the andragogical model and rebuffed some of the criticisms. Nevertheless, the glaring weakness of the andragogical model is that it is not comprehensive. Andragogy does not address programmatic goals; it only addresses characteristics of adult learners. Therefore, instructing a class according to andragogical principles does not guarantee a successful class. Even so, it provides a starting point for instructors of adults. Following the andragogical model gives instructors a good chance of productively facilitating learning among students.

The Practical Ideal Type

A conceptual framework is a way for a researcher to organize his inquiry (Shields 2003, 9; Shields and Tajalli 2006, 316).[15] The conceptual framework is developed from a researcher's study of relevant literature in light of personal experience (Shields 1998, 208; Shields and Tajalli 2006, 316-7).

A practical ideal type is a set of components of a nearly ideal process (Shields and Tajalli 2006, 324). The framework cannot be called an ideal type because the actual ideal cannot be known. The practical ideal type is profitable for evaluating a class or training program:

> Public administrators often use research findings to make recommendations to improve programs; in other words, they are asked to

[15] Common conceptual frameworks include working hypotheses, descriptive categories, a practical ideal type, models of operation research, and formal hypotheses (Shields 1998, 202; Shields and Tajalli 2006, 317-9). Researchers exploring topics tend to use working hypotheses (Shields and Tajalli 2006, 320-3). Descriptive categories help researchers describe topics (323-4). The practical ideal type helps researchers gauge how closely reality aligns with an ideal or close to ideal situation (324-8). The models of operation research conceptual framework is used with research on decision making (317-8). Researchers attempting to explain a topic tend to use formal hypotheses (328-30).

> gauge the effectiveness of program processes. One way to gauge the efficacy of program processes is to develop criteria for this judgment and then to collect empirical evidence to contrast the reality of the program against criteria. (Shields and Tajalli 2006, 324)

The conceptual framework developed in this literature review is a practical ideal type that takes the six assumptions about adult learners in the andragogical model and turns them into components of a model andragogical class.

This approach adheres to Knowles' (1989, 112) vision of how others should use his theory:

> … I prefer to think of it (the andragogical model) as a model of assumptions about learning or a conceptual framework that serves as a basis for an emergent theory. It certainly has served its purpose as a stimulant for a growing body of theoretical thinking in our field, and I thoroughly applaud this use of it.

Knowles et al. (1998, 153) recognize that the andragogical model cannot completely explain adult learning. It can be adopted or adapted as needed. Hence, moving from assumptions about adult learners to components of an andragogical class is an acceptable leap to make.

This literature review has established the suitability of the andragogical model as a point of comparison for adult learning programs and classes. The remainder of this literature review explains each component of an andragogical class.

The Need to Know Why

The first component of an andragogical class is that prior to instruction, students recognize the value of the content.[16] When a student discovers the need to know the class material, that student vivaciously engages in learning. On the other hand, a

[16] See Daloisio and Firestone 1983, 74; Illeris 2006, 17; Knowles et al. 1998, 64; Pillay et al. 2006, 218.

student's perception that content is irrelevant can stifle learning (Knox 1986, 32). Students must be convinced that content is relevant or else they will ignore it.

The early stages of a class are important (Knox 1986, 8). The instructor should discuss what content will be learned, how it will be learned, and why it must be learned (Knowles et al. 1998, 133). Of these three components, why something is to be learned is the most important. What is to be learned and how it is to be learned are completely immaterial if the student does not see why the content is relevant to their lives.

Gaining agreement on objectives is one way to ensure that students know why material is important. Shared objective setting helps learners understand and commit to the objectives. It also motivates students, makes the learning more self-directed, allows the instructor to use varied methods, and allows students to gauge their progress toward meeting the objectives. When an instructor gains agreement on objectives, the class is more responsive to the students' needs (Knox 1986, 137). Practically, this plays out as a discussion between the instructor and students where they share their expectations for the class and come to an agreement on how they will meet those expectations held by both the instructor and students.

Capacity for Self-Direction

According to Knowles (1975, 18), self-directed learning is "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating goals, identifying human and material resources, choosing and implementing learning strategies and evaluating learning outcomes."[17] Adults long

[17] This quotation also appears in Rager 2003, 278.

to be self-directed.[18] With the exception of the mentally disabled, all adults are capable of self-directed learning.[19] The second component of an andragogical class is that students are treated as if they are capable of self-directed learning.

There are two types of self-directed learning – when the individual is completely on his own and when the individual is aided by one or more helpers (Knowles et al. 1998, 135-9). An example of the first type is the self-directed learning of women with breast cancer. Kathleen B. Rager (2003, 277) conducted a study examining the learning of breast cancer patients.[20] While the women certainly had their doctors as resources, access to these professionals was limited. When a woman is diagnosed with breast cancer, "what follows is an intense process of self-education." Rager found that patients "used print materials, the Internet, networking, and support groups as resources for learning" (284-5).

When a student voluntarily attends a training class, the student is engaging in self-directed learning. In the trainer, the student finds a helper (Dart 1998, 30-1). Interestingly, the breast cancer patients' search for information sometimes led them to helpers such as support groups. Once they found the helpers, their self-directed learning switched from a solitary effort to an aided one.

Rather than merely seeking valuable knowledge, most professionals see the building of personal autonomy as the most important dimension of self-directed learning (Knowles et al. 1998, 136). Not only do they want to get the information they seek, they

[18] See Bloom et al. 1956, 41; Boone et al. 2005, 25; Illeris 2006, 18-21; Knowles et al. 1998, 40, 65; Sutherland 1998a, 195.
[19] See Daloisio and Firestone 1983, 73; Knowles 1989, 92; Knox 1986, 21.
[20] The study included 13 interview respondents (Rager 2003, 281). "Interviewees had to meet the following criteria: female, English speaking, and within 3 years of breast cancer diagnosis, and having engaged in a minimum of 7 hours of self-directed learning about breast cancer" (280).

want to know how to get more information once a helper is no longer immediately available. "It is recognized that unless the individual can do his own problem solving he cannot maintain his integrity as an independent personality," Bloom et al. (1956, 41) assert.[21]

The appropriate degree of autonomy depends on how familiar the student is with the material. Beginner classes require more teacher direction while advanced classes lend themselves to more student autonomy (Knowles et al. 1998, 136).

When students have not been exposed to self-directed learning, the instructor must provide this orientation (Knowles 1989, 89-90; Knox 1986, 132).[22] Students who have not engaged in self-directed learning or been given a proper orientation to it may induce instructors to treat them like children:

> In fact, they (students) put a lot of pressure on us (instructors) to treat them as children because that is their preconception as to what education is. If we give in to this pressure and start treating them as dependent learners, we put them into a psychological conflict between this intellectualized conception of the role of learner and their deeper psychological need to be self-directing. (Knowles 1989, 92)

The student who leans back in his chair with his arms folded is precisely who Knowles is talking about. This posture tacitly and mockingly says, "Teach me, oh great oracle." He is slipping into the familiar role of the dependent pupil in grade school (Illeris 2006, 19-20, Knowles et al. 1998, 65). The goal of the orientation to self-directed learning is to show the student that the learning activity at hand is going to be nothing like his high school algebra class. Unlike his math teacher, the instructor doesn't seek to

[21] This quotation also appears in Boone et al. 2005, 25.
[22] Knowles et al. (1998) suggest a five-part structure for an orientation to self-directed learning: (1) "a relationship-building, climate-setting exercise," (2) an introduction to self-directed learning, (3) an exercise that helps students diagnose their own learning needs, (4) "construction of a learning contract," and (5) an invitation for questions about self-directed learning (89-90).

impose his will on the student as in the traditional method of teaching (Dewey 1938, 18). Rather, the instructor seeks to help the student learn what the student feels he needs to learn.

The notion of self-directed learning is consistent with Bloom's taxonomy of the cognitive domain. The six levels of cognitive ability are knowledge, comprehension, application, analysis, synthesis, and evaluation (Shields 2006, 17). As instruction moves from one level to the next, higher-order thinking is required (Bogan and Porter 2005, 46; Boone et al. 2005, 26). Encouraging self-directed learning also encourages students to move beyond knowledge and comprehension and on to higher levels of thinking.[23]

Valuing Student Experience

Experience is a foundational concept for adult learning (Mezirow 1991, 3; Wilson and Hayes 2002, 173). Eduard C. Lindeman (1926, 9) regards a student's experience as "the resource of highest value in adult education." He also calls it a student's "living textbook" (10). According to Knowles et al. (1998, 65), "the richest resources for learning reside within adult learners themselves." For John Dewey (1938, 20), "there is an intimate and necessary relation between the processes of actual experience and education." He also asserts that "experience provides a starting point for learning" (74). The third component of an andragogical class is that students' experience is valued.

Adult experience differs from youth experience. Adults have more experience in terms of quantity and quality (Dewey 1938, 19; Knowles et al. 1998, 65-67). Mezirow (1991, 7) purports "that age involves changes reflecting qualitatively different

[23] For more on Bloom's taxonomy see Casas 2004; Crone 2001; Geertsen 2003; Goldman and Torrisi-Steele 2005; Guskey 2005; McKenzie 2003; Manton et al. 2004; Noble 2004; Roberts, K. 2002; Steele 2003; White 2002.

dimensions of context awareness, focus, goal awareness, critical reflectivity, and greater integration of the cognitive dimensions of learning."

A student's experience should be valued for two reasons. The first is the student's ego. Children see experiences as events that happened to them; adults see experiences as who they are. Ignoring or devaluing adults' experiences can be perceived as ignoring or devaluing them personally (Knowles et al. 1998, 66-7). Instructors should build on students' experiences (Sutherland 1998a, 89). In doing so, instructors build on constructs that students already have (Sutherland 1998b, 195). Reflecting on particular experiences allows students to evaluate how they think about related topics and experiences (Sutherland 1998a, 85).

The second reason a student's experience should be valued is how experience can bias the student.[24] According to Dewey (1938, 35), "every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after." In fact, Mezirow (1991, 4) asserts that experiences themselves are biased and do not accurately portray the past. People tend to accept new information that is congruent with past experiences and disregard new information contrary to their past experiences (Mezirow 1991, 35; Mezirow 2006, 26).

Constructivism aligns with valuing experience (Sutherland 1998a, 86). Like Mezirow's transformation theory, constructivism holds that each student constructs a personal version of reality that he or she then uses to cope with new experiences.[25] "New experiences are related to past experiences, resulting in a process in which knowledge and beliefs are constantly modified and seen as interconnected. In this way,

[24] See Dewey 1938, 25-7; Illeris 2006, 20; Knowles et al. 1998, 66-7; Mezirow 1991, 3-4.
[25] For more on transformation theory see Christopher et al. 2001, Cranton 1994, First and Way 1995, Kreber and Cranton 2000, Mezirow 1991, Mezirow 2006, Patteson 2002.

an individual's understanding of content is more holistic and personally meaningful," Prater (2001, 44) says.[26]

Understanding students' experience with a subject matter allows instructors to tailor the class to the students' needs (Knox 1986, 38). This makes the class more responsive by reducing time spent on covering material the students already know.

Teaching based on experience is more difficult than teaching pedagogically (Dewey 1938, 29). It also requires different methods (Knowles et al. 1998). It is easier to put together a lecture than to plan activities where students will experience the content. A lecture is independent of the students. In planning an experiential activity, an instructor must anticipate how students will interact with the material, the instructor, and other students. To ensure the class is related to students' experience Knowles et al. (1998, 94) advance three suggestions. First, the instructor can help "students exploit their own experiences as resources for learning through use of such techniques as discussion, role playing, case method, etc." Second, the instructor can target presentations to the amount of experience students have with the material. Third, the instructor can help students apply the material.

Instruction Related to Life Situations

Life demands learning (Lindeman 1926, 10; Rager 2003, 278). People want to learn things that they need to know in order to cope with their lives.[27] People's lives dictate the information they need to know (Knowles et al. 1998, 144). The fourth

[26] For more on constructivism see Anthony 1996, Cobb 1994, Fox 2001, Henry 2002, Mir and Watson 2000, Oxford 1997, Phillips 1995, Pirie and Kieren 1992, Prater 2001, Simon 1995, Simon and Schifter 1991, Sisserson et al. 2002.
[27] See Illeris 2006, 17; Knowles et al. 1998, 67; Sutherland 1998a, 84.

component of an andragogical class is that instruction helps students cope with life situations.

According to clinical psychologist Carl Rogers, a person only learns things he perceives as maintaining or enhancing himself (Knowles et al. 1998, 51). Therefore, instructors must show how material applies to students' lives (Daloisio and Firestone 1983, 77; Rager 2003, 278). This relates strongly with the first component of an andragogical class – students recognize the value of the content.

Knox (1986, 150) explains that using realistic practice activities such as exercises, role playing activities, and case studies increases the likelihood that students will apply the class content. "One of the most influential forms of reinforcement is successful use of what is learned," Knox says (161).

Workplace activities drive learning in the workplace (Pillay et al. 2006, 220). Helping students see the connection between the class content and work performance can increase the likelihood of application (Knox 1986, 192). The connection shows how the material can help them cope with actual life situations. Making this connection is consistent with Bloom's taxonomy because it induces the students to think on a higher level. They go from merely absorbing new knowledge to meshing that new knowledge with their existing perceptions.

A class providing a small amount of basic content is said to have low information density. This helps instructors focus on material that has the most relevance to students' lives (Harris 2000, 231). Low information density also reduces information overload (Knox 1986, 153).

Linking the class to students' lives anchors the class in reality (Lindeman 1926, 9). The material ceases to be abstract and becomes concrete as it is applied to students' lives.

Problem-Centered Instruction

The fifth component of an andragogical class is problem-centered instruction. The distinction between subject-centered and problem-centered instruction deals with course design. Instruction should focus on the students and what problems they're facing (Harris 2000, 229). Materials must help them with a current problem (Daloisio and Firestone 1983, 77).

According to Lindeman (1926, 173), subjects "are merely convenient labels for portions of knowledge to which specialists have given attention." Subjects are created by dividing knowledge to fit traditional schemes. Instruction that is subject-centered is problematic for two reasons. First, "the attitude of pupils must, on the whole, be one of docility, receptivity, and obedience" (Dewey 1938, 18). Second, application of the material is missing. Comprehension is improved when students begin to see how the material applies to their lives.

Knowles et al. (1998, 67) contrast subject-centeredness with problem-centeredness with orientations of adults and children:

> In contrast to children's and youth's subject-centered orientation to learning (at least in school), adults are life-centered (or task-centered or problem-centered) in their orientation to learning. Adults are motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations. Furthermore, they learn new knowledge, understandings, skills, values, and attitudes most effectively when they are presented in the context of application to real-life situations.

Problem-centered instruction is beneficial because adults "learn best when new information is presented in real-life context" (Knowles et al. 1998, 146). Also, adults apply knowledge immediately. Application itself is problem-centered rather than subject-centered (Sutherland 1998a, 84).

Lindeman (1926, 194-5) foresaw the change from subject-centered to problem-centered instruction:

> It will be readily seen that adult education calls for a new kind of text-book as well as a new type of teacher. Under conventional educational systems both teacher and text attempt to make situations fit subjects whereas the demand is to make subjects serve situations. Teachers of youth assume that their function is to condition students for a preconceived kind of conduct; teachers of adults, on the other hand, will need to be alert in learning how the practical experiences of life can enliven subjects. The purpose of adult education is to give meaning to the categories of experiences, not to classify knowledge.

Motivation by Internal and External Pressures

Finally, the andragogical class motivates students to learn using both internal and external pressures. The pedagogical model assumes children are motivated solely by external forces such as grades or someone else's approval (Knowles et al. 1998, 63). In order for children to promote to the next grade in school, they must obtain the grades required for promotion.

Like children, adults are motivated by external forces such as higher salaries, promotions, and better jobs (Knowles et al. 1998, 68). In addition, adults are motivated by internal forces (e.g. quality of life, satisfaction, and self esteem).[28]

In a study of women with breast cancer, Rager (2003, 283) found three common motivations for those women's learning – to overcome fear, to be able to help

[28] See Daloisio and Firestone 1983, 73; Knowles et al. 1998, 68, 149; Knox 1986, 127; Lindeman 1926, 179.

themselves, and to make informed choices regarding treatment. All three motivations are examples of internal motivations that come from within the individual woman.

A critical factor that enhances motivation is the students' perception that they need to know the material.[29] As mentioned before, students who do not see the class content as valuable are unlikely to engage the material.

When student motivation is weak, instructors should try to cultivate it (Knox 1986, 131-2). To help students feel they need to know the material, an instructor should show students how the material will bring the students self-fulfillment, clarify their aspirations, diagnose gaps in their performance, and show how those gaps contribute to their current problems (Knowles et al. 1998, 93).

Instructors should also be aware of potential barriers to students' motivation. These barriers include a negative self concept, inaccessibility to opportunities or resources, time constraints, and settings that do not align with how adults learn (Knowles et al. 1998, 68).

The Conceptual Framework Table

By turning the assumptions of the andragogical model into components of an andragogical class, a practical ideal type develops for evaluating adult training classes. While a practical ideal type is not a roadmap to perfection, it does serve as a good frame of reference. The essential components of an andragogical class developed in this literature review serve as the minimum standards a class must meet in order to be a true embodiment of the assumptions about adult learners asserted in the andragogical model.

Table 3.2 summarizes the conceptual framework adapted from Knowles's work and supported by additional literature. The six components of an andragogical class are

[29] See Illeris 2006, 17; Knowles et al. 1998, 149; Knox 1986, 131-2.

in the left column. On the right are the sources that support the inclusion of each component in the model:

Table 3.2 – Conceptual Framework Table

Components of an Andragogical Class	Sources
1. Prior to instruction, students recognize the value of the content: a. Students know what content will be learned. b. Students know how content will be learned. c. Students know why the content will be learned.	Daloisio and Firestone 1983, Illeris 2006, Knowles et al. 1998, Knox 1986, Pillay et al. 2006
2. Students are treated as if they are capable of self-directed learning.	Bloom et al. 1956, Bogan and Porter 2005, Boone et al. 2005, Daloisio and Firestone 1983, Dart 1998, Dewey 1938, Illeris 2006, Knowles 1975, Knowles 1989, Knowles et al. 1998, Knox 1986, Rager 2003, Sutherland 1998a
3. Students' experience is valued.	Dewey 1938, Illeris 2006, Knowles et al. 1998, Knox 1986, Lindeman 1926, Mezirow 1991, Mezirow 2006, Prater 2001, Sutherland 1998a, Sutherland 1998b, Wilson and Hayes 2002
4. Instruction helps students cope with life situations.	Daloisio and Firestone 1983, Harris 2000, Illeris 2006, Knowles et al. 1998, Knox 1986, Lindeman 1926, Pillay et al. 2006, Rager 2003, Sutherland 1998a
5. Instruction is problem-centered.	Daloisio and Firestone 1983, Dewey 1938, Harris 2000, Knowles 1989, Knowles et al. 1998, Lindeman 1926, Rager 2003, Sutherland 1998a
6. Students are motivated to learn by pressures: a. Internal pressures primarily b. External pressures secondarily	Daloisio and Firestone 1983, Knowles et al. 1998, Knox 1986, Lindeman 1926, Rager 2003

In the Next Chapter

Now that the conceptual framework has been constructed through examination of scholarly literature, tools to compare reality to the framework can be established. The

next chapter operationalizes the components of an andragogical class by developing questions for a focus group of trainers and for a survey for students.

Chapter 4 – Methodology

With the components of an andragogical class established, the next step is to create tools to assess Fiscal Management classes using the components. Questions posed to a focus group of trainers and a survey given to students serve as those tools. By using both a focus group and surveys, this research takes into account the perspective of both trainers and students. Both perspectives and both methods provide a richer and more accurate gauge into what is actually taking place in Fiscal Management classes.

Survey research brings the strength of breadth, and focus groups enable in-depth analysis. If both methods reveal similar findings, the results can be accepted with greater confidence. It is also possible to develop recommendations taking into account both perspectives.

Operationalization

For each component of an andragogical class, trainers and students must agree that the classes are conducted in an andragogical manner. The Fiscal Management trainers are likely conducting their classes in ways that align with the andragogical model if the focus group says so. If the survey benchmarks are met, this presents strong evidence that the students believe the trainers are conducting classes according to the tenets of the andragogical model.

If either or both groups respond negatively on a particular component, the classes do not align with that component. For example, the focus group could say they are explaining the value of the class content, but if enough students disagree, then the classes are not truly andragogical with respect to the first component. Even though the trainers would be teaching in an andragogical manner, the students would not perceive that the

trainers are teaching that way. Alternatively, the students could perceive that the trainers are teaching according to the model when the trainers believe they are not. For instance, students could indicate that the trainers value their experience. If the trainers do not, they are not following the model. The trainers would be sending inadvertent non-verbal messages to the students and would not be conducting the class in an andragogical manner.

If there are few components where the trainers and students agree that the classes align with the model, then there is little evidence to support that the classes are conducted in an andragogical manner. To consider the Fiscal Management training classes as aligning with the components of an andragogical class, the focus group and students surveyed must agree that the classes align with at least four components.

Table 4.1 summarizes how the conceptual framework is operationalized. The left column is the conceptual framework developed in the previous chapter. The second column serves as a prototype for a focus group question sheet. The third column serves as a prototype for the survey. The right column gives the benchmarks for comparing the survey data to the andragogical model:

Table 4.1 – Operationalization Table

Components of an Andragogical Class	Trainer Focus Group Questions	Student Survey Statements	Survey Benchmarks
1. Prior to instruction, students recognize the value of course content: a. Students know what content will be learned. b. Students know how content will be learned. c. Students know why the content will be learned.	1. Do you explain why students need to learn the class content? If so, when?	1. Prior to instruction, I was told what material the class was going to cover.*	90% Agreement
		2. Prior to instruction, I was told how the material would be taught.*	90% Agreement
		3. Prior to instruction, I was told why the material should be important to me.*	90% Agreement
2. Students are treated as if they are capable of self-directed learning.	2. What are your students capable of learning on their own?	4. I was treated like I was capable of learning on my own.*	90% Agreement
3. Students' experience is valued.	3. What role do the experiences of the Fiscal Management students play in your classes?	5. My input was valued.*	90% Agreement
4. Instruction helps students cope with life situations.	4. Do you explain how class content applies to your students' jobs? If so, how?	6. The instructor(s) showed me how the class material applies to my job.*	90% Agreement
5. Instruction is problem-centered.	5. What are the essential building blocks of your classes?	7. The class was structured around work-related problems, tasks, or situations.*	90% Agreement
6. Students are motivated to learn by pressures: a. Internal pressures primarily b. External pressures secondarily	6. What motivates your students to learn?	8. Choose from the following selections the three strongest factors that motivate your learning: ** • Better quality of life (I) • Personal satisfaction (I) • Increased self esteem (I) • Becoming more knowledgeable (I) • Potential for a higher salary (E) • Potential for a better job (E) • Recognition from other people (E) • Other(s) (please specify)	At least two of the top three motivators are external pressures.

* Respondents rate their agreement on a five point Lickert scale including (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Respondents can also indicate that a question is not applicable.
** (I) identifies internal motivators, and (E) identifies external motivators.

Focus Group Research

A focus group is essentially a group interview where the emphasis is more on the interaction within the group than between particular group members and the researcher. A focus group produces data that might not be discovered through methods which do not include group interaction, such as surveys or individual interviews (Morgan 1997, 2).

The strengths and weaknesses of focus group research stem from two characteristics: reliance on the researcher's focus and group interaction (Morgan 1997,

13-7). The researcher's focus is a strength because it helps the researcher obtain data efficiently. It is also a weakness. The researcher forms the focus group and directs its interaction. Hence, the interactions are less natural than those seen in direct observation. The group's interaction is a strength of focus group research because it sheds light on complex participant behaviors and motivations. That interaction can be a weakness because it may influence what individuals feel comfortable saying.

The focus group questions for the Fiscal Management trainers are broad. There are two reasons for this. First, it reduces the chances that the trainers will give their perceived "right" answers. Second, it gives a truer assessment of their general disposition than more specific questions would measure.

The questions are constructed so that they do not hint at what the question is attempting to measure. To discover whether the trainers value the students' experience, were asked, "What role does the experience of the Fiscal Management students play in your classes?" If they explain how student experience plays a major role, the trainers show that they value that experience. If the trainers say that student experience does not matter much, they show they do not value student experience.

Focus Group Sampling

Trainers typically teach classes in pairs and sometimes in groups of three. Therefore, trainers are accustomed to collaboration. The focus group of trainers was collegial, friendly, and productive.

Depending on staff vacancies, there are about twenty-nine Fiscal Management trainers with varying course loads. The focus group consisted of six trainers with representatives from each division within Fiscal Management – four trainers from the

Claims Division and one from both the Fund Accounting and Fiscal Systems Divisions. The group size was intentionally small because the group was expected to be active.

Focus groups do not lend themselves to making generalizations about a population (Babbie 2006, 308). Even so, this focus group likely represents all the trainers for three reasons. First, the organizational culture of Fiscal Management does not vary much in regard to training. Second, the representation of divisions is weighted as much as possible. Third, the population is not much bigger than the sample. The focus group directly captures the opinions of six of twenty-nine trainers.

The focus group took place on March 5, 2007. The group met for approximately one hour to discuss the focus group questions. The researcher conducted the focus group, probing with follow-up questions only when necessary. The follow-up questions were required when the discussion veered from the planned questions.

Human Subjects Protection for Focus Group Participants

There are no foreseeable risks or benefits to the trainers. The attitudes of the focus group do not reflect upon them individually. Any comments made in the focus group session have not been attributed to a particular person by name in this work. Therefore, negative impact at work is extremely unlikely. Notes from the focus group session are kept in strict confidence.

Participation in this research was completely voluntary. Trainers were able to refuse to participate or cease participation at any time without any harm to them.

Survey Research

While a focus group served as a tool to gather the perspectives of the trainers, surveys aided in obtaining information on the experiences of students. Survey research is

essentially asking a sample or a population a uniform set of questions to find information on a specific research purpose.

Survey research has several strengths and weaknesses (Babbie 2006, 276-7). In one sense, they are flexible. A researcher can pose many questions on one topic, creating great flexibility in data analysis. While posing many questions makes survey research flexible, its forced rigidity makes it inflexible. Since this research is comparing reality to a rigid model, the inflexibility of survey research is acceptable.

A survey's standardized questions make measurement easy because all respondents must answer the same questions. Unfortunately standardization can present researchers with a superficial view of potentially complex issues. Again, this weakness is acceptable. This research does not seek a deep understanding of training. Rather, the goal is to gather the perspectives of students about the training as it relates to the andragogical model.

Surveys are also artificial. They measure particular aspects of a subject – in this case Fiscal Management training classes – instead of the subject itself. Since this research seeks to compare reality to an abstract model, artificiality is not a problem.

In general, surveys are strong on reliability but weak on validity (Babbie 2006, 281). Reliability refers to the likelihood that similar results will be obtained if the exact same research is conducted again and again (143). Validity refers to how accurately results reflect reality (146). Still, this survey appears to be valid because students are asked specific questions about a specific class. Aggregating those responses about individual classes creates a picture of what students believe Fiscal Management training classes are like as they relate to the andragogical model.

Survey Research Questions and Sampling

Students from Fiscal Management training classes were surveyed about their recent experience in a particular class. Each student received an e-mail about the survey the within the next few business days after attending a class. Links to the online survey were e-mailed to all 220 students in all Fiscal Management training classes from January 24, 2007 to March 8, 2007.[30] Of the 220, fifty-one students responded. All respondents answered the first question, which asked them which class they attended. Of those, forty-six responded to the survey statements. A few responded to the each free response question.

Students were first asked to indicate which class they attended. They were asked to rate their agreement with statements based on a five-choice Likert scale of strongly disagree, disagree, neutral, agree, and strongly agree.[31] Students were also able to indicate that a question is not applicable.

Simple descriptive statistics are used in the data analysis for these questions. A benchmark of 90 percent agreement determines whether or not the students agree that the Fiscal Management training classes align with each component of an andragogical class. While the percentage is essentially arbitrary, to purport that a simple majority or even an overwhelming majority is ideal would be laughable. The proverbial bar must be set very high in order to claim that reality aligns with an abstract model.

Additionally, 90 percent is generally viewed as the baseline for an ideal grade in all levels of education. A grade of 90 percent indicates that a student has mastery over

[30] Surveys were not sent before obtaining an exemption from the Texas State University Institutional Review Board on February 8, 2007.
[31] A Likert scale is used to gauge the relative intensity of a respondent's feelings toward a statement (Babbie 2006, 170).

the content tested. Similarly, if 90 percent of survey respondents agree, for example, that the instructors showed them how the class material applies to their jobs, then it can be said with confidence that the students believe that the instruction aligns with the fourth component of an andragogical class: Instruction helps students cope with life situations. Because the benchmark percentage is arbitrary, there is some flexibility in interpreting results that fall within a few percent of it.

Since the students were surveyed about one distinct training class, the questions are more direct than the focus group questions. The students had no vested interest in giving perceived "right" answers, so effectively showing them the model through the survey questions was acceptable.

The final question was formatted differently than the others. To see whether students are motivated primarily by internal or external forces, they were asked to choose from a list their three most influential motivators. Before the survey was distributed to the students, each choice was deemed an internal or external motivator. Students did not know this distinction. They were also given the opportunity to volunteer their own motivators. The researcher judged whether each response is an internal or external motivator. The responses are analyzed to see which three motivators make up the top three. If two or three are internal motivators, then the students' motivation aligns with the andragogical model.

Human Subjects Protection for Survey Respondents

On February 8, 2007, this project gained exemption from full or expedited human subjects protection review by the Texas State University Institutional Review Board. There are no foreseeable risks or benefits to survey respondents. The researcher is the

only person to see individual completed surveys, and survey information is only reported in aggregate.

The researcher did not use a Comptroller's office e-mail account in order to avoid potential disclosure of survey information in an open records request. All electronic correspondence with participants was conducted from a Texas State University e-mail account.

Survey participation was completely voluntary. Participants were able to refuse to participate or cease participation at any time without any harm to them.

In the Next Chapter

The next chapter presents the results from carrying out the methodology presented in this chapter. The results are organized around the components of an andragogical class.

Chapter 5 – Results

This chapter carries out the second purpose of this research – to assess the Fiscal Management Division's training classes using the components of an andragogical class. The chapter presents and synthesizes the focus group and survey data on each component.

Six trainers representing each division in Fiscal Management participated in the focus group. At times, their opinions were harmonious, and at other times, there were distinctly different opinions among the group members. Fifty-one students from regularly scheduled Fiscal Management training classes responded to the Web-based survey on the classes they attended. Their answers reveal their perceptions on how the classes were conducted.

The Need to Know Why

According to the andragogical model, students should understand the value of course content. Students that are ill-informed about the purpose of training are often poorly motivated. Data from the trainers reveal that they are explaining the value of class content. Data from the students, however, indicates that many students are not receiving the message.

Focus Group Results

Some trainers in the focus group referred to the course descriptions on Training Center as a way students learn what will be covered in the class.[32] Using these descriptions, most students had determined whether or not the class would be beneficial. Therefore, some trainers assumed students had entered the classroom with this

[32] See Appendix B for sample course descriptions.

information, so the trainers did not thoroughly explain why students need to know the course material.

Trainers said that in the first part of each class they either explain why the class is important or ask the students why they are in the class. Whether students are given motivation by the instructor or students voice their motivations, the students' need to learn the content is explicitly established. The trainers also said they use the introduction to briefly explain the teaching methods. On the whole, the focus group results revealed that trainers are explaining the what, how, and why of each class.

Survey Results

While the trainers seem to be explaining the value of each class, many students are not are catching the significance. Seventy-eight percent of students said they were told what material the class would cover. Fifty-nine percent said they were told how the material would be taught. Seventy-two percent of students said they were told why the material should be important to them. These percentages are far below the 90 percent benchmark. Too many students do not agree they were told what material the class would cover, how that material would be taught, and why the material should be important to them. Figure 5.1 shows the students' the levels of agreement with survey statements on whether the students were told the what, how, and why of the class:

Table 5.1 – Students' Need to Know

Survey Statements: Prior to instruction, I was told …	Percentage Strongly Agree and Agree	Benchmark Agreement Percentage	Mode Response
… **what** material the class would cover.	78	90	Strongly Agree
… **how** the material would be taught.	59	90	Agree
… **why** the material should be important to me.	72	90	Agree

(n=46)

The trainers are attempting to communicate the what, how, and why to the students. Since students are not receiving this information, more robust course introductions, such as those described by Knowles et al. (1998, 133), could more effectively communicate this crucial information.

Capacity for Self-Direction

The opinions of the trainers and students are in stark contrast on the students' capacity for self-directed learning. Despite the trainers' skeptical view of this trait in their class participants, the students interpreted the trainers' actions as treating them as capable of self-direction.

Focus Group Results

The focus group was pessimistic about students being able to learn on their own. A recurring comment was that the students' ability to learn on their own was dependent upon the subject matter. Because many Fiscal Management classes are highly technical and deal with proprietary software, the learning must be more instructor-focused. The policy classes leave more room for self-directed learning. One focus group member said that if you give students direction to the relevant resources, a few will be able to learn things on their own, but most people need more guidance.

Survey Results

Despite the trainers' grim outlook on the students' capacity for self-direction, more than 89 percent of students agree trainers are treating them as if they are enabled to learn on their own. While this is slightly below the 90 percent benchmark, the benchmark is arbitrary and allows for some interpretation of figures that fall close to it. Because the actual percentage is less than one percent below the benchmark, it is safe to say that students believe they are treated as if they are capable of self-direction. Figure 5.2 shows the students' beliefs on the survey statement:

Table 5.2 – Students Treated as Capable of Self-Direction

Survey Statement	Percentage Strongly Agree and Agree	Benchmark Agreement Percentage	Mode Response
I was treated like I am capable of learning on my own.	89	90	Strongly Agree

(n=46)

Perhaps the students are confusing ordinary respect with being treated like they are capable of self-direction. The focus group results indicate that the trainers hold a negative view of their students' capacity for self-direction. Even so, trainers are communicating to many students that their beliefs are to the contrary. If the trainers were to actually believe what their actions portray, the likely result would be that more students agree that they are treated as capable of learning on their own.

Valuing Student Experience

Trainers must value student experiences, according to the andragogical model. It is critical for a student's ego to be seen as bringing value to the class. Also, trainers must value student experiences in order to correct false notions based on those experiences. The focus group indicated that they value student experiences, and students are noticing.

Focus Group Results

In the focus group, the trainers came to a consensus that student experiences are very valuable in their classes. First, students with more experience can help those with less experience. Students sit in close proximity, and a student that has completed a class exercise can simply lean toward an unfinished student and help him or her with completing the exercise. Many times, students are encouraged to work together. By sharing their experiences, more tenured students can give less experienced students some additional context to the class material.

The trainers are quick to note that the instructor does not have all the answers. Students can inadvertently teach the trainers. "Sometimes it's good to have someone with a bad experience …. If we don't know it's broken, we can't fix it," one focus group member said.

Survey Results

More than 91 percent of students indicated that they felt their input was valued, which is more than the benchmark. Figure 5.3 shows how students responded to the statement, "My input was valued:"

Table 5.3 – Valuing Student Experience

Survey Statement	Percentage Strongly Agree and Agree	Benchmark Agreement Percentage	Mode Response
My input was valued.	94	90	Strongly Agree

(n=46)

Clearly, trainers value their students' input. Equally as apparent, students are sensing their trainers' sincerity.

Instruction Related to Life Experience

In order for class material to impact students, they must see the material as relevant to their life experiences. Obviously, the Fiscal Management training classes are geared toward students' experiences in their work.

Focus Group Results

Through real-life examples and exercises, trainers apply the material to situations that simulate how the students will use the class content in their work. "We try to replicate what happens in their workplace," one trainer said.

Survey Results

More than three-fourths of the students agreed that the class material applied to their jobs. Nonetheless, this portion is far less than the 90 percent benchmark. However, the student comments on this survey item are encouraging. "(The) instructor made clear how to use the TINS (Texas Identification Number System) navigation tools … in a manner that was general enough to stay process-focused yet specific enough to cover many likely scenarios when using the course material at work," one student said.

Interestingly, more than 13 percent of survey respondents said that the material did not apply to their jobs and thus to their lives. This relatively high rate is likely attributable to two causes. The first likely cause deals with the wording of the survey statement. It read, "The instructor(s) showed me how the class material applies to my job." If a manager is taking the class to investigate whether to send employees, the instructors are not likely to know this without asking. Therefore, the instructors would generally not state explicitly how the material applies to a manager's job because the manager is there to judge that on his or her own.

The second most likely reason students did not feel instructors explained how the material applied to their jobs is that some students attend the classes to cross-train on functions they will not likely perform. This is particularly resonant with students in the Security Coordinator Administration class. Security coordinators and their back-up personnel are required to take the course every two years. Many of the back-up personnel are only cross-training for emergency situations, so some of them do not see the job functions taught in the class as part of their jobs. Figure 5.4 shows how all the students responded to the survey statement:

Table 5.4 – Applying Material to Students' Lives

Survey Statement	Percentage Strongly Agree and Agree	Benchmark Agreement Percentage	Mode Response
The instructor(s) showed me how the class material applies to my job.	76	90	Strongly Agree

(n=46)

Trainers are attempting to show students how the materials apply to their jobs, and the vast majority of students are recognizing this. However, instructors are not explaining this to all their students. Gaining a better sense of what each student does at work should help trainers illustrate how students can apply the course content.

Problem-Centered Instruction

Instruction should always be focused on what the students need. In doing this, trainers must recognize that students – particularly those seeking to learn material related to their work – do not merely see subjects that they must master. They see problems, tasks, and situations. Instructors should build their courses around these elements.

Focus Group Results

Trainers expressed two distinct opinions in the focus group about the building blocks of their classes. One follows the andragogical model, and the other does not.

First, some trainers said that their classes are built on the sequence of tasks that a student must do at their work. For example, some of the payroll system classes take students through a logical sequence of tasks such as hiring, promotion, demotion, salary actions, and termination. This aligns with the andragogical model because the classes are structured around work situation.

The other opinion regarding the building blocks of Fiscal Management classes was that classes are structured around the course's primary reference guide. For example, a class would take students through the first chapter of a manual, then the second, and so on. This does not follow the andragogical model because the class is most strongly related to a book rather than what happens to students on the job. This opinion shows a subject-centered approach rather than a problem-centered one.

Survey Results

The survey data shows that the vast majority (85 percent) of respondents subscribe to the focus group's first opinion. Still, a sizable portion (15 percent) subscribe to the opinion that the classes do not follow the andragogical model. Therefore, the 90 percent benchmark is not met. Figure 5.5 shows the students' levels of agreement with the notion that the classes were structured around work problems, tasks, or situations:

Table 5.5 – Problem-Centered Instruction

Survey Statement	Percentage Strongly Agree and Agree	Benchmark Agreement Percentage	Mode Response
The class was structured around work-related problems, tasks or situations.	85	90	Strongly Agree

(n=46)

The trainers express two divergent opinions on how their classes are structured, and the students are divided as well. Many students agree that the classes are structured around problems, tasks or situation, but not enough to reach the benchmark.

Motivation by Internal and External Pressures

The andragogical model asserts that adult learners are motivated by both internal and external forces but that internal forces are more influential. While the focus group disagrees with this notion, the students overwhelmingly indicated that the model holds true.

Focus Group Results

The focus group expressed that their students are motivated primarily by external motivators. They cited external motivators such as Comptroller-imposed deadlines and requirements, a supervisor's order, job advancement, and recent unfavorable audit findings as motivations for learning. However, they also cited internal motivators such as becoming more knowledgeable, reducing frustration, gaining more independence, and making their agency better. The group acknowledged that there are a variety of reasons people want to learn in their classes, but the most potent motivators come from outside the student. This is in direct conflict with the andragogical model. While the model also acknowledges that both internal and external motivators are present, it purports that internal motivators are the most powerful.

Survey Results

While it is certainly important to know the mindset of the trainers for this issue, the students are in the better position to express what motivates them. Students indicated

various factors that motivate them, but just like the andragogical model states, they are motivated by internal forces primarily and external forces secondarily.

The benchmark for this component of an andragogical class is that two of the top three motivators for students are internal factors. The data supports the andragogical model's assumption that students are primarily motivated by internal factors. The top two motivating factors are becoming more knowledgeable and personal satisfaction, which are internal factors. Interestingly, every student in the survey chose becoming more knowledgeable as one of their top three motivators for learning, and more than two-thirds chose personal satisfaction. The third most prevalent motivator is potential for a better job, which is an external motivator. Figure 5.6 shows the percentage of students indicating each factor as being one of their top three motivators for learning:

Table 5.6 – Motivating Factors for Students

Motivating Factor	Overall Rank	Percentage of Students Choosing Factor in Top Three
Internal		
Becoming more knowledgeable	1	100
Personal satisfaction	2	68
Better quality of life	5	23
Increased self-esteem	6	19
Other internal motivators	8	4
External		
Potential for a better job	3	40
Potential for a higher salary	4	30
Other external motivators	7	15
Recognition from other people	8	4

(n=46)

While the trainers expressed the opposite opinion about what motivates their students, the students themselves indicated that they are primarily motivated by internal forces. Since the students are in a better position to voice their motivations, the data associated with their opinions present a more accurate picture of reality. More than

anything, this data reveals that the students' motivations align with the andragogical model. Nonetheless, the trainers are not conducting their classes from a disposition that aligns with the students' self-perceptions.

In the Next Chapter

The next chapter draws conclusions based on these findings. Potential topics for future research are also highlighted.

Chapter 6 – Conclusion

Within the first few pages of this research, a three-fold purpose was put forth. Thus far, the first two purposes have been achieved. First, the literature review developed the components of an andragogical class from the andragogical model of adult learning. Second, survey and focus group techniques based on the components were used to assess the training classes offered by the Texas Comptroller's Fiscal Management Division. This chapter satisfies the third purpose – to make recommendations on ways to improve the training classes using the components of an andragogical class as guides.

While the Fiscal Management trainers are not strictly trainers by trade, they conduct their classes with professionalism and with an open attitude toward improvement. They are genuinely good at what they do and are driven to become even better. The training support staff is diligent in ensuring that the logistical aspects of the training program run smoothly. The managers are supportive of any effort to make the trainers and any other aspect of the training program better.

Alignment with the Components of an Andragogical Class

In order to describe the Fiscal Management training classes as aligning with the components of an andragogical class, the trainers and the students would have to agree on such an alignment with at least four of the components. Unfortunately, the two groups only agreed positively on one component – valuing student experience. The two groups agreed negatively concerning problem-centered instruction. On the other four components, there were mixed results where one group perceived alignment with the model and the other did not. Therefore, the data does not support the notion that Fiscal

Management training classes align with the components of an andragogical class. Table 6.1 shows whether reality aligns with each piece of the practical ideal type:

Table 6.1 – Conclusion Table

Components of an Andragogical Class	Focus Group Opinion	Survey Benchmark Achievement	Do Fiscal Management Classes Align with the Component?
1. Prior to instruction, students recognize the value of the content: a. Students know what content will be learned. b. Students know how content will be learned. c. Students know why the content will be learned.	Aligns with the Model	Not Met	Mixed Results
2. Students are treated as if they are capable of self-directed learning.	Does Not Align with the Model	Met*	Mixed Results
3. Students' experience is valued.	Aligns with the Model	Met	Yes
4. Instruction helps students cope with life situations.	Aligns with the Model	Not Met	Mixed Results
5. Instruction is problem-centered.	Does Not Align with the Model	Not Met**	No
6. Students are motivated to learn by pressures: a. Internal pressures primarily b. External pressures secondarily	Does Not Align with the Model	Met	Mixed Results

* Even though the benchmark is 90 percent agreement and the survey yielded 89 percent, the percentages are close enough to support that the students believe they are treated as capable of self-directed learning.
** The survey yielded 85 percent agreement. This is not close enough to the benchmark to show that the students believe instruction is problem-centered.

Recommendations

On the whole, Fiscal Management training classes do not align with the andragogical model of adult learning because the overall benchmark of four of six

components aligning with the model was not met. Even though only one of six components parallels the model, making the classes more andragogical is simpler than the data indicates. For the four components with mixed results, only one group's opinion needs to change. For example, the trainers believe they are helping students cope with life situation, but the survey shows that only 76 percent of students agree. The trainers already buy into this andragogical principle, so they merely need to explain to a greater percentage of students how the material can help them on the job. Alternatively, the trainers believe that students are motivated primarily by external forces, but the students indicated that their motivating factors are primarily internal, which aligns with the andragogical model. Still, only one group's opinion requires adjustment. The trainers must understand and exploit student motivations.

Based on the research findings, five recommendations for Fiscal Management trainers are presented. Each one corresponds with a component that does not align fully with the andragogical model.

Recommendation 1 – More Robust Introductions

To more clearly explain the value of course content, trainers should develop more robust introductions to their classes. Some trainers are relying on the course descriptions in the Training Center to tell the students what material will be covered, and from those descriptions, students determine whether a course will be useful for them. Some trainers are covering these items along with how the material will be taught, but it appears many trainers could enhance their course introductions.

For all three survey statements, the percentage of students who agreed fell far below the benchmarks. Furthermore, the percentage of students who said they were told

how the material would be taught (59 percent) is considerably less than the percentage that said they were told what material would be taught (78 percent) and why it should be important to them (72 percent). In response to this, the Fiscal Management trainers should develop more robust introductions to their courses.

Perhaps trainers could use questions to draw out what information the students came to learn. Even if students come only because of what is enumerated in the course description, their desired learning outcomes should parallel at least one learning objective the trainers aim to accomplish. By explicitly making connections between what students hope to learn and what the trainers will present, they will uncover what will be learned and why the students should deem it important. Next, the trainers can show the students how the material will be taught by briefly discussing the methods for instruction and reinforcement. By taking this or another systematic approach, trainers can facilitate course introductions that align with the andragogical model.

Recommendation 2 – More Self-Directed Learning Activities

The focus group showed pessimism about the notion of self-directed learning. Even with this suspicious attitude toward their students' ability to learn things on their own, the percentage of students who agreed that they were treated as capable of self-directed learning fell very close to the benchmark. The second recommendation is that trainers employ more self-directed learning activities. These activities communicate to the students that the trainers believe the students can understand the material on their own.

The trainers might spend less time lecturing and substitute that time with self-directed learning activities. For example, the trainers could allow students to break into groups to research a topic and report to the class.

Besides the obvious benefit of teaching adults in a way that aligns with adult learning theory, there are added advantages to employing self-directed learning methods. First, self-directed methods allow the trainer to break from lecturing. This keeps students interested by varying the instructional methods. Second, it makes the class less instructor-focused and more student-focused. Third, it instills confidence in the students that they can locate information they need to perform their job duties. Through employing self-directed learning methods, the trainers will realize these benefits.

Recommendation 3 – Apply the Material Whenever Possible

The focus group said they explain how their course material applies to their students lives. Nevertheless, an acceptable percentage of students do not understand this explanation. Perhaps a root cause of this discrepancy in opinion is that trainers do not understand the variety of job functions represented in their classes. One survey respondent – presumably the chief fiscal officer at a state agency – said that the class she attended "was for clerks, not (the) CFO."

The third recommendation is for trainers to apply the course material to the students' lives whenever possible. To remain motivated during the class, students must know there is a purpose for learning the material. Many times, this connection is easy to make. For instance, students must be versed in travel policy in order to complete travel vouchers. Sometimes, purposes can even be self-evident like when students enter new

hire information during a payroll class exercise. Still, it is important for trainers to voice these connections.

Even in the case of the chief fiscal officer who attended a class that she believed to be beneath her position, the trainers could have made the case that despite the fact she would not use the course material on a daily basis, it is still beneficial for her to have a thorough understanding of her employees' job functions.

Clearly, trainers have reasons for including each piece of a course's content. Perhaps all trainers need to do is explain why the material is in the class. If trainers know they have an atypical student a class, they should take time to explain how the material can apply to that student as well.

Recommendation 4 – Structure Classes Around Work Activities

Trainers should develop a problem-centered approach to their classes. Some trainers already do this, but there are some who base their classes on the course's primary reference document. This document-based approach is problematic because the course is structured on a book rather than on what happens to students on the job. While the reference document is certainly a valuable resource, its outline should not mirror the training class's outline. A better approach is to structure the class around work-related tasks, problems, or situations.

A good example of a problem-centered class is Travel Voucher Completion. The purpose of the course is to help students become proficient at entering and analyzing travel vouchers. Trainers discuss how to fill out the form and then spend the rest of the time roaming the class as students work on scenarios similar to ones they face at their jobs.

Developing each class's objectives around tasks, problems, or situations should help trainers remedy a class based on a reference document. The objectives of a class should be its building blocks, so developing objectives around tasks, problems, or situations structures the class around these items rather than a book.

Recommendation 5 – Understand and Exploit Student Motivations

Through the survey, students indicated that they are motivated primarily by internal forces and secondarily by external forces. This is in direct conflict with the focus group's perception of their students' motivators. The final recommendation is that trainers understand and exploit what motivates their students.

The students said their top three motivators are becoming more knowledgeable, personal satisfaction, and potential for a better job. Granted, the motivating factors for each student are different and can vary from time to time and subject to subject. Armed with the knowledge that their students are chiefly motivated by internal forces, Fiscal Management trainers should emphasize internal motivators such as enhancing a personal knowledge base, satisfying a curiosity, or quelling a frustration more than external motivators such as meeting deadlines, abiding by legal requirements, and reducing unfavorable audit findings.

Potential for Future Research

This research was purposefully limited to regularly scheduled classes conducted by Fiscal Management trainers. The specialized training classes and Web-based training could also be studied using the conceptual framework developed in the literature review. This conceptual framework could also be used to evaluate other training programs.

Additionally, this research does not address the overall effectiveness of Fiscal Management training. Certainly, adopting methods that follow adult learning theory should bolster effectiveness. Perhaps a study using pre-testing and post-testing would yield data profitable for evaluating the effectiveness of Fiscal Management training.

In Closing

Adults learn differently than children, so they must be taught differently than children. One of the foremost ideas in adult learning is the andragogical model. The data shows that regularly scheduled Fiscal Management training classes do not align with this model, but by implementing the recommendations explained above, the classes can follow the model more closely.

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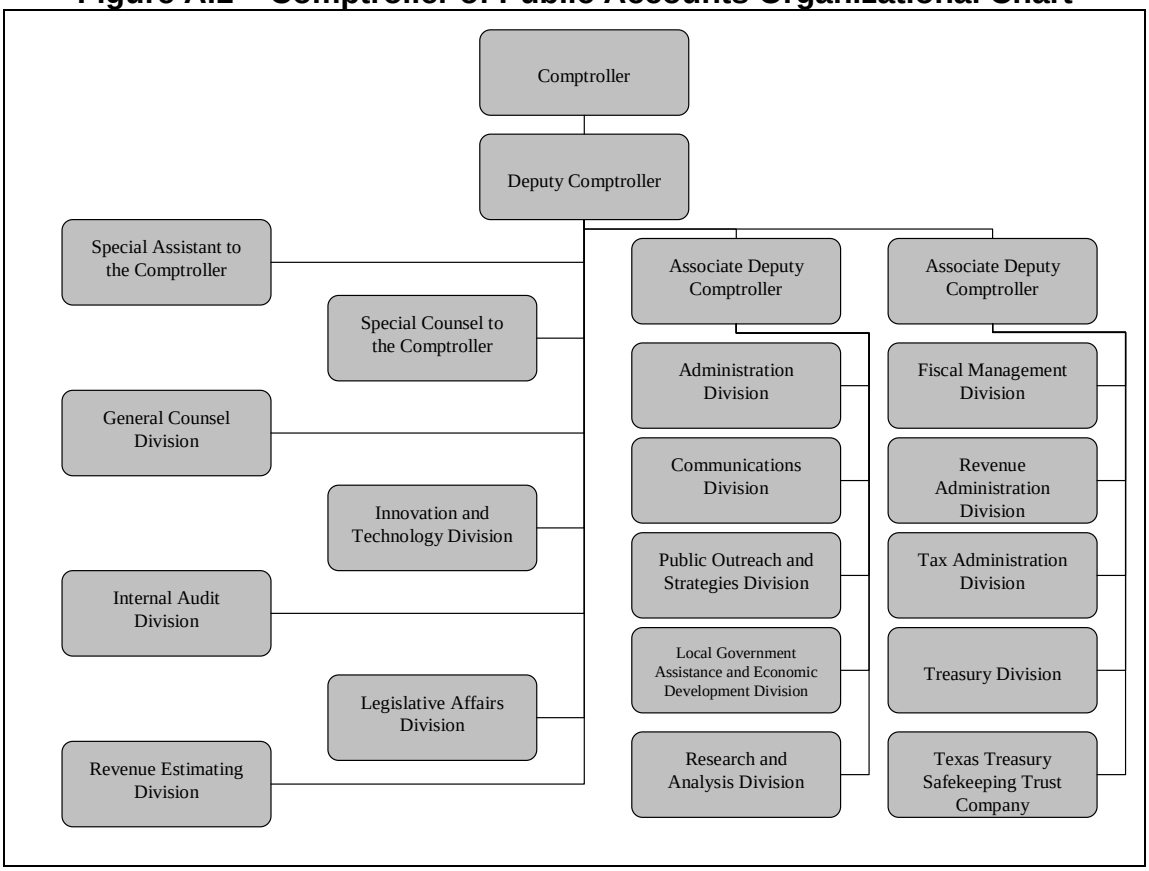
Appendix A – Organizational Charts

The Texas Comptroller of Public Accounts oversees a staff of almost 2,900 employees. Consequently, the agency has many layers of management. Figure A.1 shows the top four layers of management in the Texas Comptroller's office:

Figure A.1 – Comptroller of Public Accounts Organizational Chart

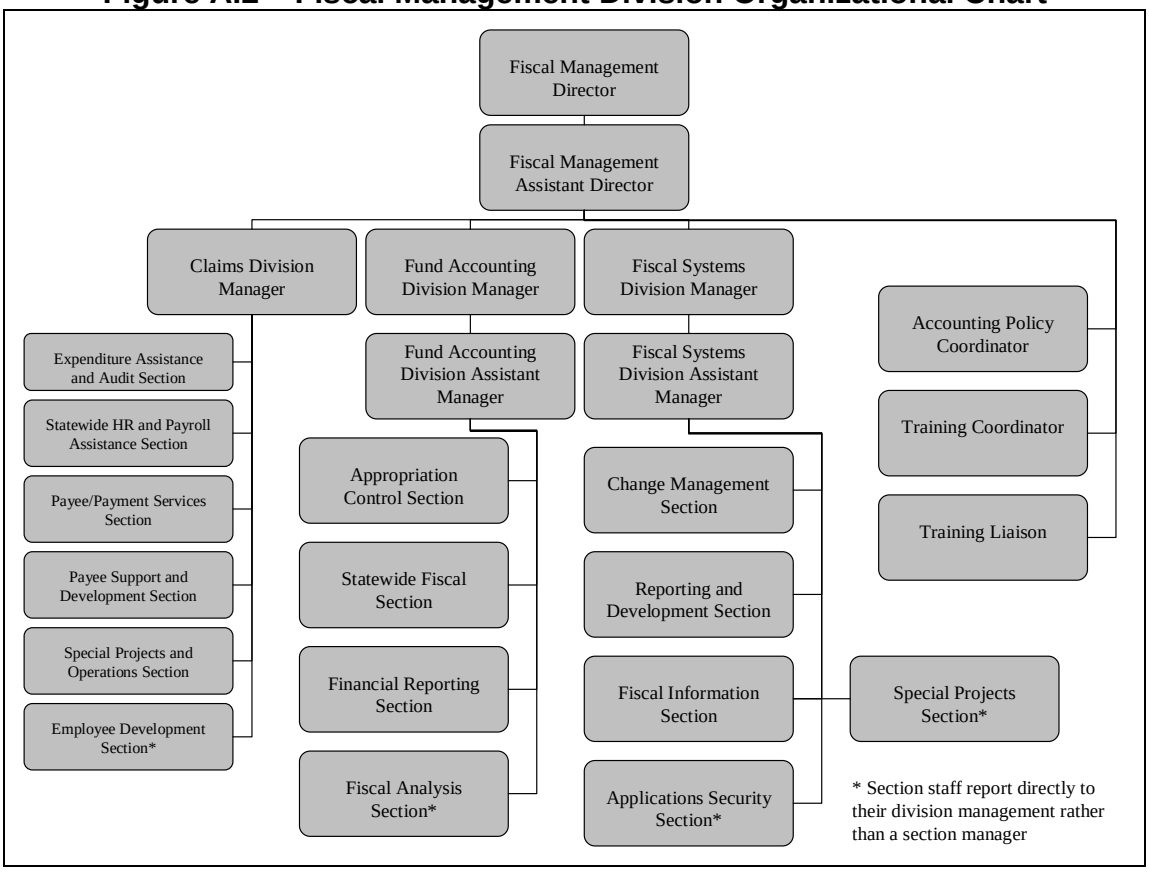


The two training personnel in the Fiscal Management Division report to the assistant director. The training coordinator and the training liaison do not conduct classes. Rather, they support the trainers by handling logistical matters like maintaining the Training Center Web site, keeping the training site stocked with supplies, and ensuring projectors are available on class days.

Trainers work in each of the three divisions that make up the Fiscal Management Division. In the Claims Division, trainers work in the Expenditure Assistance and Audit,

Statewide Human Resources and Payroll Assistance, and Payee/Payment Services Sections. In the Fund Accounting Division, trainers work in the Appropriation Control and Statewide Fiscal Sections. Trainers also work in the Applications Security Section of the Fiscal Systems Division. Figure A.2 shows the structure of the Fiscal Management Division:

Figure A.2 – Fiscal Management Division Organizational Chart



The figures in this appendix were created from organizational charts available on the Comptroller's office Intranet.

Appendix B – Sample Course Descriptions

Many students decide whether to attend Fiscal Management training classes based on the course descriptions on the Training Center Web site. Below are three course descriptions copied from the Web site – State Government Salary Administration Policies, Comptroller Expenditure Object Code Workshop, and Travel Voucher Completion:

State Government Salary Administration Policies

Purpose: This class provides a review of the Comptroller's rules and policies governing salary administration and certain employee benefit programs for employees who work in payroll processing or human resources.

Description: Topics covered:

- Documentation requirements for payroll processing to support a post-payment audit
- State government salary actions
- Holiday provisions
- Special payment provisions, including:
  - Benefit replacement pay
  - Longevity pay
  - Hazardous duty pay
  - Lump sum payments of leave
- Retroactive payments of compensation
- Resources for more information about payroll processing and employee benefit programs

Prerequisites: None

Security: None

What to Bring: None

CPE Credit: 7.00 (Hours)

Topic/System: Payroll/Personnel

Course Type: Classroom

Sponsor: Statewide Human Resource & Payroll Assistance

Comptroller Expenditure Object Code Workshop

Purpose: This is an introductory course designed for employees with less than six months experience handling Comptroller expenditure object codes (COBJs). Students will learn to determine which COBJ to use for purchases.

Description: Topics include:

- The purpose in assigning COBJs to purchases
- How to interpret COBJ descriptions
- Using purchase resources to determine appropriate COBJs

Note: This class does not cover rules and regulations administered by the Texas Building and Procurement Commission.

Prerequisites: None

Security: None

What to Bring: Students should bring a copy of pages V-22 to V-141 from the Expenditure Codes section in the Comptroller Manual of Accounts - Volume I.

CPE Credit: 3.00 (Hours)

Topic/System: Purchase

Course Type: Classroom

Sponsor: Expenditure Assistance & Audit

Travel Voucher Completion

Purpose: This training is recommended for travelers interested in learning the basics of completing a travel voucher (Travel Voucher Form 73-174) and employees who want to sharpen their travel voucher processing skills. Students will review sections of the *State of Texas Travel Allowance Guide* that pertain to travel vouchers. Practical exercises that require the entry of sample travel information on an online travel voucher form will reinforce the information presented.

Description: Topics include:

- How to complete various fields used in travel vouchers
- Updated travel voucher information
- Travel rules and regulations as they pertain to travel vouchers
- How to interpret travel scenarios (different scenarios provided to employees from institutions of higher education)

Prerequisites:

- Knowledge of basic Microsoft Excel, if the student is planning to use the provided Comptroller travel voucher.
- A basic understanding of travel rules and guidelines.
- It is strongly recommended that students take the Introduction to Travel course before attending this course.

Security: None

What to Bring:

- Students should bring an e-copy or hardcopy of an agency travel voucher to work on in class.
- Please also bring a copy of the State of Texas Travel Allowance Guide.

CPE Credit: 3.00 (Hours)

Topic/System: Travel

Course Type: Classroom

Sponsor: Expenditure Assistance & Audit

Appendix C – Survey Results

Students were asked a series of question on an online survey. Below are each survey question with the actual count and percentage of responses. For each statement where respondents were asked to indicate their agreement, a question followed asking them to explain their response. These free response questions are omitted from the material below:

1. Please choose the Fiscal Management training class you attended.

Class	Response Percent (%)	Response Total (n=50)
Advanced Expenditure Processing & Documentation	14.0	7
Appropriation Management (Higher Education Agencies)	6.0	3
Appropriation Management (Non-Higher Education Agencies)	0.0	0
Basic Expenditure Processing & Documentation	6.0	3
Comptroller Expenditure Object Code Workshop	0.0	0
Direct Deposit Process	2.0	1
Fundamentals of Expenditure Approvals & Certification	6.0	3
HRIS Higher Education Agency Training	0.0	0
Introduction to Travel	0.0	0
Prompt Payment and Payment Scheduling	4.0	2
Security Coordinator Administration	16.0	8
SPA Core Lab	6.0	6
State Government Salary Administration Policies	0.0	0
TINS Inquiry	4.0	2
TINS Online Entry	4.0	2
Travel Voucher Completion	0.0	0
Travel Workshop	2.0	1
USAS Core Lab	10.0	5
USAS Interagency Transactions	2.0	1
USPS Fiscal Year-End Basics	0.0	0
USPS for Beginners	4.0	2
USPS Leave Accounting	8.0	4
USPS Payroll Report Basics	4.0	2
Warrant Hold	2.0	1

2. Prior to instruction, I was told what material the class was going to cover.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	45.7	21
Agree	32.6	15
Neutral	13.0	6
Disagree	8.7	4
Strongly disagree	2.2	1
Not applicable	0.0	0

3. Prior to instruction, I was told how the material would be taught.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	21.7	10
Agree	37.0	17
Neutral	28.3	13
Disagree	13.0	6
Strongly disagree	0.0	0
Not applicable	0.0	0

4. Prior to instruction, I was told why the material should be important to me.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	32.6	15
Agree	39.1	18
Neutral	8.7	4
Disagree	17.4	8
Strongly disagree	2.2	1
Not applicable	0.0	0

5. I was treated like I am capable of learning on my own.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	50.0	23
Agree	39.1	18
Neutral	6.5	3
Disagree	2.2	1
Strongly disagree	2.2	1
Not applicable	0.0	0

6. My input was valued.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	52.2	24
Agree	41.3	19
Neutral	4.3	2
Disagree	0.0	0
Strongly disagree	2.2	1
Not applicable	0.0	0

7. The instructor(s) showed me how the class material applies to my job.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	39.1	18
Agree	37.0	17
Neutral	10.9	5
Disagree	8.7	4
Strongly disagree	4.3	2
Not applicable	0.0	0

8. The class was structured around work-related problems, tasks or situations.

Response	Response Percent (%)	Response Total (n=46)
Strongly agree	50.0	23
Agree	34.8	16
Neutral	8.7	4
Disagree	4.3	2
Strongly disagree	2.2	1
Not applicable	0.0	0

9. Choose from the following selections the three strongest factors that motivate your learning.

Response	Response Percent (%)	Response Total (n=47)
Better quality of life	32.4	11
Personal satisfaction	63.8	30
Increased self esteem	19.1	9
Becoming more knowledgeable	100.0	47
Potential for a higher salary	29.8	14
Potential for a better job	40.4	19
Recognition from other people	4.3	2
Other(s)	19.1	9