

IDENTIFICATION OF PROBLEM SOLUTION STRATEGIES  
NEEDED BY FIRST YEAR TECHNOLOGY EDUCATION TEACHERS

By

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**ABSTRACT**

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**THE NEW TEACHERS' COMPENDIUM: STRATEGIES AND TIPS FROM VETERAN TECHNOLOGY EDUCATION TEACHERS FOR RESOLVING PROBLEMS DURING THE FIRST YEAR**  
(Title)

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First year technology education teachers, and teachers in general, often have a very difficult time during their first year in the classroom or laboratory. Research conducted for this project indicated that new teachers often entered the classroom with little experience, no supervision and lacked the skills necessary to succeed in the classroom or laboratory. Nationally, nearly one-third of teachers left their jobs within the first three years of service (Depaul, 2000; Kantrowitz, 2001). One of the primary reasons teachers vacated the job field was they often felt overwhelmed, unprepared and

unsupported professionally.

This study had two goals: (1) investigate the opinions of practicing technology education teachers to discover if they encountered problems during their first year and (2) to compile a list of suggestions and comments that might assist a new teacher resolve or reduce problems they encounter. The study focused on four areas that were revealed as common problem areas for new teachers, classroom/laboratory management, time management, student discipline, and student motivation.

A survey was designed to question veteran technology education teachers about their perceptions of their first year of teaching. The sampled population for the study was drawn from technology education teachers that taught in the state of Wisconsin during the school year 2002-2003. The survey had four sections, each centering on one of the four problem areas; classroom/laboratory management, time management, student discipline, and student motivation. The survey asked if problems were encountered, how serious and frequent the problems were perceived, if the teacher sought help with the problem, and how quickly the problems were resolved. In addition, the teachers were asked to give one suggestion or comment that they believed was important to reducing or resolving problems in each of the four problem areas. The suggestions were analyzed for content and separated into “common theme” groups. The most numerous suggestions for each problem area were compiled into a master list and titled “The New Teachers’ Compendium: Strategies and Tips from Veteran Technology Education Teachers”.

An analysis of the 108 returned surveys revealed that a majority of the respondents encountered problems during their first year of experience. Student

discipline was viewed by the respondents as the most significant problem area, Problems were also encountered to a lesser extent in the other three areas, classroom/laboratory management, time management, and student motivation. The majority of the respondents indicated that they resolved problems themselves and that resolution time averaged approximately two weeks. Four hundred seven suggestions or comments were given as advice on how to deal with the four problem areas. The comments and suggestions, very diverse in length and in detail, were analyzed and separated into suggestion groups. Three of the problem areas ended with four suggestion groups, student discipline had three groups. The suggestion groups were condensed into common themes and compiled into the “New Teachers’ Compendium: Strategies and Tips from Veteran Technology Education Teachers”

A conclusion could be drawn from this study that technology education teachers generally had a difficult first year and encountered many problems. In addition, because of the high number of respondents that resolved problems with out help, it be concluded that new technology education teachers could use, or need more support during their first year. The New Teachers’ Compendium: Strategies and Tips from Veteran Technology Education Teachers was designed to help support need.

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## CHAPTER ONE

### *Introduction to the Study*

For a new teacher, mastering the skills of the teaching profession was often a difficult and overwhelming proposition. The high teacher attrition rate, nationally 33 percent of teachers left the profession within the first five years, attested to the fact that the teaching field was a difficult one (Depaul, 2000; Kantrowitz, 2001). Most new teachers worked in a classroom environment, isolated from their colleagues, and often unprepared by their college for the tasks they were attempting. Unable to watch and learn from more experienced colleagues, many new teachers floundered under the responsibilities that the profession required. This study's goal was to construct an advisement guide for new technology education teachers. The guide was to be made up of the opinions and suggestions of experienced teachers, which could help new technology education teachers, recognize, or control problems they encountered during their first year of teaching.

Teachers must be able to coordinate and juggle a variety of issues within their curriculum in addition to teaching their traditional lessons (Stevenson-Smith, 2000). In addition to delivering lessons and assessing student progress, they needed to provide an environment suitable to learning (Austin, Odell, Isher, Kay, & Edelfelt, 1989). These problems were compounded for most technology education teachers because of the additional challenges presented by their teaching environment.

There are several objectives that have been developed for use in a technology education curriculum. One objective was to prepare students to understand the nature of,

and impact of technology on society. A second objective was to facilitate the students' ability to utilize learned skills as well as concepts and apply them to life situations (Hendricks & Sterry, 1999). To fulfill these objectives technology education required two learning environments, the classroom and the laboratory. In the classroom, the students learned about a particular technology and the theoretical applications of that technology. In the laboratory, the students learned the practical application of technology by use of machines and processes. Technology education laboratories were usually large rooms containing equipment, machines and supplies. When in operation, the technology education laboratory often had students working on their own selected project, or, if all students were working on the same project, they may have been at different stages of the project. This aspect of the laboratory made the teacher's job very difficult because he or she had to contend with many different concepts, problems or questions, often at the same time. In addition, technology education laboratory equipment and supplies required constant maintenance and organization (Hill & Wicklein, 2001, Schulo, 1992). In short, one of the most stressful and chaotic experiences for the new teacher was managing a technology education lab (Schulo).

No matter what the subject area, new teachers were expected to be ready and able to do their job on the first day of school. New teachers had the same duties and responsibilities as a teacher of 20 years experience, unfortunately the novice teacher rarely possessed the same knowledge or experience that the seasoned veteran had acquired. In addition, teachers worked in an isolated environment from their peers, and time restraints and a busy schedule usually did not allow them time to view other teachers

while actively teaching. Isolation and tough job responsibilities left many new teachers feeling overwhelmed and frustrated. Nationally, 22 percent of teachers left their job within the first three years, and 33 percent within the first five years of service, because of a “sink or swim” attitude. (Depaul, 2000; Kantrowitz, 2001).

Three areas were consistently outlined as problem areas for new technology education teachers, classroom or laboratory management, student discipline, and student motivation (Benson, 1989; Chase & Chase, 1993; Hill & Wicklein, 2001; Schulo, 1992). Because the technology education laboratory was a potentially dangerous place, student discipline and motivation were also areas of special concern for new technology education teachers (Benson, 1989; Kratochvill, 2000; Schulo, 1992).

There was a wealth of material available of potential help to new teachers and educators. One look into “education” on the Internet flooded the teacher with information on education. However, much of the information available is not directly related to technology education, especially laboratory management. A search of Internet websites such as “The Innovative Classroom”, “Proteacher” and “National Teacher Association” (NEA), found no link designed for technology education. Many sites gave useful general ideas on classroom management such as “be organized” but few gave hints specific for technology education or running a technology education laboratory. Many websites contained the link “technology”, but these links gave tips how to incorporate a certain technology, usually computers or computer software, into your class.

A search of professional literature in the technology education field yielded little practical advice for the new technology education teacher. A search of the “Journal for

Industrial Teacher Education” from 1998-2002 found only two articles devoted to technology education management ideas. Searches of “The Technology Teacher” and “Teaching Technology” yielded similar results.

New teachers encountered many problems during their first year on the job. Effective skills to reduce or eliminate the problems encountered would make a new teacher’s first year more bearable and rewarding; yet there did appear to be a manual or guide of tactical ideas to help new technology education teachers learn these important skills.

#### *Statement of the Problem*

There was little specific material available to assist a new technology education teacher with solving common problems they encountered during their first year of teaching. What material did exist was on the general education level, and did not necessarily pertain to technology education or the technology education laboratory. Effective management was one of the most important skills that a technology education teacher could possess yet there appeared to be no practical guide to aid new teachers in learning these skills.

#### *Purpose of the Study*

The purpose of this study had two goals: investigate the perceptions of technology education teachers to see if they experienced problems during their first year and identify their techniques that dealt with those problem areas. The problem areas were identified as classroom/laboratory management, time management, student discipline, and student motivation. The problem solving techniques of the teachers were to be analyzed, and the

most common solutions put into an advisement guide for new technology education teachers. The guide would provide new technology education teachers with a list of potential solutions to problems they encountered during their first year.

The results of this research were a possible benefit to all potential or current teachers, but were of greatest benefit to first year technology education teachers. The advisement guide was a potential tool for teachers who were mentors of new technology education teachers, or were advisors to student teachers. This study might also have been of interest to any university with an technology education educators program.

### *Research Objectives*

Objectives for this study included:

1. Identify if classroom/laboratory management, time management, student discipline and student motivation were perceived as problem areas for first year technology education teachers.
2. Determine if first year technology education teachers identified problems in the four areas as serious or troublesome problems.
3. Determine if first year technology education teachers sought help to resolve encountered problems.
4. If problem resolution occurred, determine the approximate amount of time it took to resolve the issue.
5. Identify techniques and suggestions to reduce or eliminate problems in classroom/laboratory management, time management, student discipline, and student motivation. Using the most numerous suggestions for each problem

area, create a short list of advice to help new technology education teachers resolve or lesson problems encountered during the first year.

### *Limitations of the Study*

Several limitations applied to this study and it's results.

1. A tactical guide to problem resolution for first year technology teachers was not going to solve every problem encountered.
2. The study investigated the opinions of experienced teachers about the problems they encountered during their first year. The researcher acknowledges the fact that time and other teaching experiences may have affected their opinions about their first year.
3. The term veteran or experienced teacher was defined as any teacher with a Wisconsin state certified technology education teaching license and was currently teaching as of the spring of 2003.
4. The population for this study was comprised of technology education teachers teaching in the state of Wisconsin. All teachers possessed a technology education "220" license issued by the Wisconsin Department of Public Instruction.

### *Definition of Terms*

Beginning Teachers: A teacher who has not taught before; a novice, usually one who has just completed training to become a teacher.

Classroom management: practices and procedures that a teacher used to maintain an environment in which instruction and learning can occur (Wong & Wong, 1998).

Experienced Teacher: any teacher with a Wisconsin Department of Public Instruction certified technology education teaching license and was currently teaching as of the spring of 2003.

Mentor: The individual was the one who provided the mentoring relationship with the benefits of his/her experience. The mentor was usually older and has more experience in a particular setting.

Mentoring: One individual supported, taught, counseled, or assisted a less experienced colleague on a regular basis over an extended period of time. The relationship occurred in almost any setting, but was commonly found in the workplace, in the community, and in school settings.

Student Discipline: behavior which enables students to increase their learning without jeopardizing their rights or the rights of others (Mclemore, 1994)

Student Motivation: stimulation of a student's interest and curiosity in learning, so that they have a desire to participate in the learning process (Wallen & Wallen, 1978).

Technology: human innovation in action. This involved the generation of knowledge and processes to develop systems that solve problems and extend human capabilities. (International Technology Association, 1996)

Technology Education 220 License: The numerical code the Wisconsin Department of Public Instruction had issued to distinguish technology education from other subject areas.

Technology Education Teacher: a teacher whose subject area focused on the knowledge, processes and tools used by society. Technology education teachers integrate classroom learning with hands on experiences in the laboratory.

Technology Education Laboratory: usually a large classroom centered around a student work area. The work areas could be devoted to many different subjects, a wood laboratory, or welding laboratory, were examples of technology education laboratories.

Time management: Planning and control of a number of techniques and procedures that aimed to increase the effectiveness of a person in getting the things done that need to be done.

#### *Over View and Summary*

This chapter served as an introduction to this studies' purpose, which was to investigate teacher perceptions of their first year problems and then construct an advisement guide for new technology education teachers on how to solve problems encountered. Chapter two provided more detail and understanding of the problem areas encountered by new technology education teachers. Chapter three outlined the survey instrument, data collection, and analysis methods used for the study. Chapter four discussed the results and data collected from the study and chapter five provided a summary and discussion of significant findings of the study.

## CHAPTER TWO

### *Review Of Literature*

#### *Introduction*

The review of literature served as a foundation to provide an overall understanding of the duties and responsibilities of a technology education teacher while in performance of their job. The review also provided the basis to identify the most problematic areas of education encountered by first year technology education teachers.

#### *Duties and Responsibilities of a Technology Education Teacher*

Technology education teachers, like all teachers, were responsible for a wide variety of duties and responsibilities. Many of the tasks performed by technology education teachers were similar, if not identical, to other teachers' duties and responsibilities. The primary responsibility of any teacher was to deliver instructional content within their field of study. To do this, teachers needed to be knowledgeable in their subject area, and needed to maintain a solid environment for learning. (Austin, Odell, Isher, Kay, & Edelfelt, 1989). Maintenance of a general education learning environment entailed tasks such as lesson planning, grading, and student attendance. Teachers were also responsible for coordinating and juggling a variety of duties in addition to teaching and organizing their traditional lessons (Stevenson-Smith, 2000). Many of these duties asked teachers to take on roles traditionally reserved for parents, families, and communities such as disciplinarian, mentor, councilor, or advisor (Hill, Wicklein, 2001). In addition, many schools required teachers to supervise a study hall, lunchroom or serve as a hall monitor.

The problems listed above were compounded for most technology education teachers because of the additional challenges presented by their educational environment (Hill & Wicklein, 2001; Schulo, 1992). A technology teacher often served dual roles, that of classroom and laboratory teacher and one of the most stressful and chaotic experiences for a new technology education teacher was managing a technology education laboratory (Schulo). Unlike traditional classrooms where the students were often seated at a desk or computer, technology education teachers managed laboratories where students were working with potentially dangerous equipment, tools and supplies (Hill & Wicklein). To compound this situation, students were often spread out throughout the laboratory working on their projects. The technology education teacher's job was often confusing and difficult because he or she had to contend with many different concepts, problems or questions, often at the same time, but not necessarily in the same area of the laboratory.

The heading of laboratory management is a broad one and can involve many things. Although related to classroom management in many duties, laboratory management involves such things as organizing, ordering and finding materials, tool repair, procedure demonstrations, and safety. Hill and Wicklein (2001) stated "Technology education teachers must manage laboratories with hundreds of pieces of equipment, materials, and tools; accommodate significant numbers of disadvantaged students; and keep up with a complicated technical curriculum" (P.1) In a busy laboratory, these tasks often occurred at the same time and it became necessary for a teacher to become a manager as well as a teacher (Wallen & Wallen, 1978).

Laboratory management tasks were challenging for any teacher, much less someone with little or no experience in these areas. Unfortunately, technology education practitioners identified laboratory management skills as an area lacking in teacher preparation. A study conducted by Hill and Wicklein (2001), in a survey of technology education teachers, found that counseling and management skills were perceived as the weakest areas of teacher preparation in technology educational programs. Participants of the survey did not view their collegiate program as having adequately prepared them to confront the counseling and management needs that they encountered as technology education teachers (Hill & Wicklein).

What is more distressing for the new teacher was that overall success or failure in the classroom was often determined during the first two or three weeks of school, or even the first two or three days (Wong & Wong, 1998). Douglas Brooks (1985) pointed out two things in his article “The First Day of School”:

1. Very few teachers receive any instruction on what to do on the first day of school.
2. Very few teachers get any experience or training during student teaching on what to do on the first day of school.

“Thus most student teachers enter the teaching profession with no training and no experience in what to do on the first day of school” (Wong & Wong, 1998, p.15).

With the knowledge that the first few weeks of school were so important, it was surprising to find a lack of practical literature to help the novice technology education teacher with management skills. Technology education publications offered little to help

new technology education teachers with practical advice. In a search of the most recent 24 issues of “The Technology Teacher”, 20 issues of the “Journal of Technology & Teacher Education”, “Journal of Technology Education”, and the “Journal of Teacher Education” found no articles devoted to helping new teachers with laboratory management. With little information found on technology laboratory management, a search of a related topic, classroom management, found a wealth of information.

A search of the World Wide Web found many links to educational support sites for general classroom teacher. A review of “Proteacher” (<http://proteacher.com/>), a popular site for teachers, discovered a dedicated link to classroom management information. The title “classroom management” was linked to forty-one different sites full of advice and ideas for classroom management. Under the “management” heading was a subheading for new teachers that lead to an additional 26 sites with practical advice for new teachers on classroom management.

Classroom management referred to all things that a teacher does to organize students, time, and materials so that instruction in content and student learning can take place (Wong & Wong, 1998). Successful classroom management involved not only responding effectively when problems occurred, but also preventing the frequent occurrence of problems. The most effective decisions in classroom management were based on a clear concept of the goals and intended outcomes that a teacher wished to accomplish (Depaul, 2000).

One of the most important elements to being an effective teacher was to be a good classroom manager. However, managing a classroom can be difficult for the

inexperienced teacher. Reading about how to manage a classroom and actually accomplishing it are very different things. Managing a classroom is an acquired skill that is rarely discussed and often comes through painful experience (Nilson, 1998), yet lack of professional support was one of the major reasons teachers have left the profession (“Attracting and Keeping Quality Teachers”, 2003; Depaul, 2000) . Nationally, 22 percent of teachers left their job within the first three years because of a “sink or swim” attitude to teacher induction and lack of help from school administrations and colleagues. (Depaul, 2000,).

Education programs recognized the difficulties that new teachers experienced and many took steps to help the novice teacher. The Texas A&M University-Corpus Christi, Texas had a 100 percent success rate with their teacher graduates staying on the job for at least five years. Texas A&M’s program was designed to provide support and instruction to first-year teacher graduates while getting them started toward master's level professional development. The program focused on practical issues such as classroom management, communication skills, and maintaining discipline. Faculty members regularly visited the classrooms of participants to evaluate the teacher's performance (Depaul, 2000).

As of the year 2000, twenty-six states had some type of teacher induction program for new teachers. Teacher induction programs were designed to aid new teachers in making the transition from college to classroom. The programs often used orientation meetings, advice sessions and mentoring to help a new teacher adjust to school life. In addition to university teacher-preparation programs, school districts are doing more to

make first-year teaching a success. Many school districts from across the country have instituted induction programs for new teachers that included mentoring, peer assistance, and other forms of guidance and support. However, nearly 50 percent of new teachers did not participate in anything more substantive than a brief school orientation (Depaul).

Mentoring programs were an example of a popular teacher induction method used by schools to help initiate new teachers. In a mentoring program, an experienced individual teaches, counsels, and assists a novice colleague on a regular basis over an extended period of time (Podsen, 2000). In a teacher-mentor relationship, the expert provided help, support and guidance that helped the novice develop the necessary skills to become an effective teacher (Podsen). Like other teachers, many beginning technology education teachers were mentored. If the school was large enough, the mentor was another technology teacher. However, if the teacher was in a small school the mentor may have been a teacher with little or no laboratory experience.

The literature review has established three ideas that pertained to new technology education teachers. (1) Many new technology education teachers, and new teachers in general, experienced difficulties during their first year of teaching. (2) New teachers were often overwhelmed by the variety, and number of responsibilities that their new profession required. (3) New teachers were also discouraged by the lack of support they received from the their peers and schools. Three other areas were also identified as problem areas for new teachers. The areas were time management, student discipline and student motivation.

### *Time management*

Time management was an interwoven subject with classroom and laboratory management. Time management, by definition, was the control and planning of time in order to effectively manage oneself. Time management was often a very real problem for all teachers, but was especially important for new teachers (Chase & Chase, 1993). Time management was an issue with technology education teachers because of the wide variety of duties that they performed during the school day. A Delphi study conducted by Oklahoma State University developed a list of tasks and responsibilities for which a technology education teacher was responsible (Benson, 1989). These tasks ranged from strategic, long-term responsibilities such as planning an entire technology education program to specific duties like machine maintenance. The list was comprised of 14 major responsibilities. Each major responsibility was broken down into smaller, more detailed tasks. When completed the list totaled 116 major and minor responsibilities for which a technology teacher was responsible (Benson). Obviously, not all these tasks were required every day, but the list still indicated how busy a technology teacher could be during a school day.

### *Student Motivation*

In educational terms, student motivation was defined as the student's desire to participate in the learning process (Lumsden, 1994). From a teacher's perspective, motivation was stimulation of a student's interest and curiosity in learning, so that they will work close to their capacity (Wallen & Wallen, 1978).

Student motivation was considered an important aspect of the educational field for

several simple, yet vital, reasons: (1) better motivated students wanted to learn more, (2) well motivated students were better behaved, and (3) student motivation was recognized as a key ingredient to the success of educational institutions (“Hard Work and High Expectations: Motivating Students to Learn”, 1992).

### *Student Discipline*

“Discipline is behavior which enables students to increase their learning without jeopardizing their rights or the rights of others” (McLemore, 1994, p.1) Discipline was a major concern of educators, an important ingredient to effective learning and classroom management, and often consumed much of a new teachers time (Hilgart, 1992; McLemore; Schwebel, Schwebel, Schwebel & Schwebel 1992). Teachers rated discipline as one of the biggest problems in the teaching field. In a 1989 poll of 1388 teachers in “Instructor” magazine, 69 percent of teachers rated discipline as the number one problem associated with their profession ((Schwebel, Schwebel, Schwebel and Schwebel 1992). Chase and Chase’s (1993) survey of secondary school teachers rated discipline as the most important issue in secondary schools. Wong and Wong (1998) listed the three most important student behaviors to be taught were discipline, procedures, and routines. Safety concerns also made discipline an important aspect of supervising a technology education laboratory.

### *Conclusions*

The literature review established several conclusions important to this study. (a) New technology education teachers, and teachers in general, are busy individuals during the school day. (b) The combination of a busy schedule, lack of educational experience,

and inadequate assistance from colleagues and administration, often lead to problems and difficulties for first year teachers. (c) New teachers needed more professional support. (d) Four common problem areas for new technology education teachers were classroom/laboratory management, time management, student discipline, and student motivation.

The literature review has provided enough information for the researcher to believe that an advisement guide for new technology education teachers of tips and strategies compiled from advice from veteran teachers would provide a means of support for new technology education teachers.

## CHAPTER THREE

### *Methods and Procedures*

This chapter explains the methods and procedures used in the research for this project. Information is outlined for the following areas method of study, sample selection, instrumentation, procedures followed, and data analysis. Each of these areas is discussed to help provide an overview of the methodology used for this project.

#### *Method of Study*

The research for this study established several facts about new technology education teachers, and new teachers in general. (a) New technology education teachers are busy individuals during the school day. (b) The combination of a busy schedule, lack of educational experience, and inadequate professional support, often lead to problems and difficulties for first year teachers. (c) Four common problem areas for new technology education teachers were classroom/laboratory management, time management, student discipline, and student motivation. (d) An advisement guide for new teachers of tips and strategies compiled from veteran teachers would provide a means of assistance for new technology education teachers.

A brief overview of the method of study was helpful to outline the procedures used for this research project. The study had two goals: investigation of technology teachers' opinions about problems during their first year and compilation of strategies to combat the problems encountered. A survey instrument was developed to collect information that would satisfy research for both goals. The survey had a section of questions for the problem areas of classroom management, time management, student discipline and

student motivation. Each section contained six questions; the first five questions in each section asked teachers about their perceptions of problems encountered during their first year of teaching. The sixth question asked teachers to list one suggestion that might help a new teacher with problems in the problem area. The question was not intended as an in depth analytical measurement of problems solutions, but instead sought general teacher advice about solving problems during the first year.

### *Sample & Population*

The sampled teacher group used for this study was drawn from a list of 1261 technology education teachers. The sample was comprised of 201 technology education teachers that were teaching in the state of Wisconsin with a “220” technology education license. The number 220 was the 3-digit numeral assigned to technology education by the Wisconsin Department of Public Instruction (DPI) to differentiate technology education from other subject areas. A further discussion of sample selection was included later in chapter four in the “procedures” section.

### *Instrumentation*

A new survey instrument was required to collect the information for this study as no existing surveys were found that related to the topics. The survey was subdivided into four sections with each section related to a problem area for new technology teachers. The problem areas were classroom/laboratory management, time management, student discipline, and student motivation. The literature review indicated these four were common problem areas for new teachers (Hilgart, 1989; Chase & Chase, 1993; Hill & Wicklein, 2001). Each of the four problem sections was broken into six questions. The

first five questions of each section were devoted to discovering technology teachers' perceptions of their first year of teaching. The sixth question in each section asked for advice that might help a new teacher resolve problems in that area.

In addition to the four sections of questions, one background question was asked. The question's purpose was to establish if veteran teachers had different opinions about their first year than the less experienced teachers. The question asked how many years of teaching experience the subject possessed. The options for this question were 1-2, 3-4, 5-7, 8-10 and 11+ years experience.

The first five questions in the classroom/laboratory management, time management, student discipline, and student motivation sections were the basis for collecting teachers' opinions about their first year. Answers to the first five questions provided the information to fulfill the first goal of the study: Investigate the opinions of technology education teachers to see if they experienced problems during their first year of teaching.

The first three questions in the classroom/laboratory management, time management, discipline, and student motivation sections were answered using a five-point Likert scale that included the options strongly agree, agree, neutral or no opinion, disagree and strongly disagree. The first question in each section asked if problems were encountered in that particular area. The second question asked how serious the problems were perceived to be and the third question asked opinions about the frequency of the problems in each area.

Questions four and five also used a five point Lickert scale but each had different options for answers. Question four asked if the teacher had sought help to resolve the problems. The following were the options for answers for question four; (a) I solved the problem myself; (b) I solved the problem myself, but it took a while to do so; (c) I tried, but failed to fix the problem during my first year; (d) I was aware of the problem and sought from other on how to fix it; (e) I sought assistance from experienced colleagues in order to quickly resolve the issue.

Question five asked for opinions on how quickly problem resolution took place. Again, a five point Lickert scale was used with the following options for answers; (a) immediately, within a week of occurrence; (b) very quickly, within two weeks of occurrence; (c) it took a quarter to fully resolve the issue; (d) it took a semester to fully resolve the issue; (e) a resolution never took place.

The sixth question in each section asked for suggestions that might help a new teacher deal with difficulties within that problem area. The question was an open-ended question and respondents were free to list any suggestion or comment. Answers to question six provided the information needed to fulfill the second goal of the study: Identification of strategies used by veteran teachers to reduce problems in classroom/laboratory management, time management, discipline, and student motivation. Responses to question six would be collected and analyzed to form the new teacher advisement guide.

In order to ascertain if the survey was a valid instrument, five people with varying amounts of teaching experience were asked to review the survey and give their opinion as

to whether the survey would accurately collect the desired information. Three of the people were teaching high school and two were teaching at the collegiate level. All five responded that the survey was a satisfactory instrument for collecting the desired information. A copy of the survey instrument was included in appendix A.

### *Procedures*

The procedures for the data collection and analysis portion of this study included (1) the development of a consent form and survey instrument, (2) identification of a suitable group of technology education teachers that would serve as the population base, (3) distribution and collection of the consent forms and surveys, (4) analysis and compilation of the survey results and (5) statement of conclusions and suggestions based on the results returned surveys..

After the surveys were developed a subject consent form was needed to assure the protection of the subjects being surveyed. A consent form was obtained from the University Wisconsin Stout Solutions-Research Services Website (<http://www.uwstout.edu/rps/humnsbj.htm>). The consent form stated that survey participation was voluntary and that with returning the survey the subject was giving his/her permission to use their information. A sample of the consent form was included in appendix B.

The Wisconsin Department of Public Instruction (DPI) provided a list of licensed technology education teachers working in the state. The list, which included 1261 technology education teachers, formed the population from which a sample was drawn.

The target number for returned survey responses was 70. Seventy was the

approximate number of data sources needed to provide an accurate representation of the technology education teacher population . Using an average survey return rate of 35% a total of 200 surveys had to mailed to ensure seventy responses (Gillet, A., personal communication, October 14, 2000).

It was apparent from investigation of the DPI teacher list that a random draw of names would not provide an accurate sample of the teacher population. The problem was that there were a greater number of small department schools, but more teachers in large department schools. A simple random draw would leave the large department schools with a disproportionately higher number of teachers in the sample. Therefore, a stratified random sample of the teacher population was developed. In the stratified random sample, the DPI list of teachers was subdivided into smaller groups using department size as the separating criteria. The subject sample would then be drawn from each sub-group using a predetermined number. Each group was calculated to ascertain the group's percentage of the total list. The calculation for this was  $\text{Number of teachers in dept.} / 1261 = \text{percent of total teachers}$ . The breakdown of the population by department size was displayed on the next page in table 3.1.

Table 3.1

Breakdown and Percentage of Teachers by Department Size

Department Size	Number of Teachers	Percentage of Total Teachers
One Person	307	24.3%
Two People	288	22.8%
Three People	177	14.1%
Four People	168	13.3%
Five People	120	9.5%
Six People	78	6.2%
Seven People	63	4.9%
Eight –Fifteen People	60	4.7%
Total Teachers	1261	100%

The percentage of the total population for each sub-group was used as the determining factor to calculate how many teachers would be drawn from each sub-group. For example, one-person departments constituted 24.3% of the total population of technology education teachers, therefore one-person departments would make up 24.3% of the sampled population. The calculation for this was  $200 \times X = N$ , where 200 was the number of needed samples, X was the sub-groups percentage of the total population and N was the number of samples to be randomly drawn from each sub-group. Table 3.2 showed the number of samples needed for each department.

Table 3.2

Number of Samples by Department Size

Department Size	Percent Of Total Teacher Population	Number Of Surveys Needed Per Department Size
One Person	24.3%	49
Two People	22.8%	46
Three People	14.1%	28
Four People	13.3%	27
Five People	9.5%	19
Six People	6.2%	12
Seven People	4.9%	10
Eight – Fifteen People	4.7%	10
Total Teachers	100%	201

After determination of the number of needed samples per department, teachers were assigned a number within the sub-groups, from one to the sub-group total number. Once number assignment was completed, a sequentially random list of numbers was obtained for each sub-group. The random number lists were generated using the Random.org Website (<http://random.org/>) and were used to select the corresponding teachers for each sub-category. The surveys were then color coded in order to identify them with a specific department size.

All survey packets included: survey, human subjects consent form, self-addressed stamped envelope and one stick of Wrigleys' ® chewing gum, Spearmint® flavor. All survey packets were delivered via U.S. Mail and were sent on April 4th, 2003.

### *Data Analysis*

This study had two goals: discovery of technology teachers' perceptions of problems encountered during their first year teaching and creation of a list of suggestions and advice that would help new teachers combat similar problems during their first year. The discovery portion of the study, the first five questions in each section, was not intended as an analytical instrument, but sought only to discover general teacher perceptions of problems encountered during their first year. The information-gathering portion of the study, the sixth question in each section, asked teachers for a suggestion that might help a new teacher avoid/solve problems in that particular area.

The first five questions asked teachers their opinions about problems encountered during their first year of teaching. The five questions asked (1) if problems occurred, (2) how serious the problems were, (3) how frequent the problems were, (4) how they were solved and (5) how long problems took to solve. The first five questions will be analyzed using the descriptive statistic techniques frequency of responses and mean score. Each question yielded a frequency count for the entire subject population and was broken down into frequency counts by department size and experience groups. A frequency was

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simply how many subjects answered each question with a particular response. The same questions were evaluated using a mean score for the total population and for each subgroup. The mean score was the arithmetic average for the answer to each question. Summing answer values and dividing by the total number of answers calculated the mean score for each question. In order to calculate a mean score the answers needed to be assigned point values. Once answers had a numerical value, a mean score could be calculated. Answers were assigned a point value based on a five point Lickert scale. Table 3.3 shows the answer values for questions one, two and three. The subject of student discipline was used as an example problem area for the three questions listed in table 3.3.

Table 3.3

Answer Values for Questions One, Two and Three

Question 1. During my first year teaching, problems occurred in the area of student discipline.

Question 2. At the time, I viewed these problems in student discipline to be serious, and troublesome.

Question 3. Difficulties with student discipline were frequent, and presented me with problems throughout my first year of teaching.

Answer	Point value
Strongly Agree	1
Agree	2
Neutral	3
Disagree	4
Strongly Disagree	5

For the first question, any mean score under three indicated teachers encountered problems during their first year. The closer the score would approach one, the greater the difficulty with problems. A score of more than three indicated fewer problems during the first year. Question two rated the severity of problems encountered. A mean number less than three indicated more serious problems and a number approaching one would show a higher seriousness rating. A mean number more than three indicated less severe problems. Question three rated the frequency of problems encountered throughout the

first year. A mean number less than three indicated a higher frequency of problems. The closer the mean number would approach one the greater the frequency of problems. A mean number more than three indicated fewer problems encountered.

Question four also used a five-point Lickert scale. Table 3.4 listed the point values for question four; student discipline was again used as an example for the table. Question four asked how problems were solved. A mean score of less than three, and sliding towards one indicated problems were handled personally. A mean score of three indicated solutions were sought, but the problems failed to be eliminated during the first year. A mean score greater than three and moving toward five indicated the teacher sought assistance from a colleague in order to resolve the problem.

Table 3.4

Point Values for Answers to Question Four

Question 4. How did you resolve problems with student discipline?	Point Value
A. I solved the problem myself.	1
B. I solved the problem(s) myself, but it took a while to do so.	2
C. I tried, but failed to fix the problem(s) during my first year.	3
D. I was aware of the problem and sought help from others on how to solve it.	4
E. I sought assistance from an experienced colleague in order to quickly resolve the issue.	5

Question five asked how quickly problem resolution took place. A mean score of one indicated a quick resolution time of a week or less. A mean score of three indicated problem resolution took about a quarter (9 weeks) and a score of five indicated the problems were not resolved. The values for answers to question five appear in table 3.5. Student discipline was again used as the example.

Table 3.5

Point value for Answers to Question Five

When difficulties with a problem were encountered, how soon did a resolution take place?

	Point Value
A. Immediately, within one week of occurrence.	1
B. Very quickly, within two weeks of occurrence.	2
C. It took a quarter to fully resolve the issue.	3
D. It took a semester to fully resolve the issue.	4
E. A resolution never took place.	5

Data analysis for all five question consisted of using frequency counts and mean scores. Using these two methods, a general conclusion statement could be made for each of the five questions in each of the problem sections. Mean scores and frequency counts were also calculated for the years of experience and department size categories. Data analysis results for questions one through five for classroom/laboratory management, time management, discipline, and student motivation were discussed in chapter four.

Conclusions, comments and summaries for questions one through five were made in chapter five. .

Question six asked for suggestions on how to deal with problems for the four problem areas, classroom/lab management, time management, student discipline, and student motivation. Suggestions and comments were analyzed for general content and meaning by the use of key words and phrases. For example, key words or phrases for the classroom/lab management section were organization, planning, documentation, class rules, class management plan, and daily planner. Lacking any key words or phrases, suggestions were analyzed by the researcher according to his interpretation of their meaning. The surveys were then sorted into groups of like responses and the top response groups for each problem area were listed in chapter four. A more detailed response to the suggestion groups followed in chapter five.

Chapter three was narrative account of the methods and procedures used for this study. The chapter's focus was on how information would be collected and analyzed. Chapter four displays the collected results of the study but does not analyze them beyond looking at frequency counts and mean scores. Chapter five contained a summary of the entire study, a summary of the data, and also drew conclusions about teachers' opinions and suggestions. Suggestions and comments that were compiled were presented in appendix C.

## CHAPTER FOUR

### *Presentation of Survey Results*

This chapter provided a listing of each question used in the survey and a table of the results for that question. A data analysis and table of results was provided for each topic section.

The survey developed for this study had two goals: goal one was to investigate if new teachers encountered problems during their first year. This goal was not specific in scope and only sought *if* the teacher had problems and how serious they perceived the problems to be. Questions were also asked about how problems were solved and length of problem resolution. Goal two was to establish a list of advice and or suggestions that could help a new teacher solve possible problems during their first year. Question six in each of the four sections asked for one piece of advice pertaining to that section topic.

Two hundred and one surveys were sent out, 108 surveys were returned, which represented 53.7% of the total surveys mailed. His return rate far exceeded the 35% that was originally planned. Each survey listed 24 questions broken into four sections of six. There was one background question asking how many years of teaching experience the respondent possessed.

The following two data tables list the frequency of survey response. Table 4.1 was broken down by years of experience and showed the majority of respondents had eleven or more years of experience. Table 4.2 was broken down by technology department size. This table showed total surveys mailed, number returned, percent returned and percentage of the total respondents.

Table 4.1

Frequency of Response by Years of Experience

Years of Experience	Frequency of Response	Percent of Total Respondents
1 – 2 years	5	4.7
3 – 4 years	10	9.3
5 – 7 years	12	11.2
8 – 10 years	3	2.8
11+ years	77	71.3

Table 4.2

Frequency Response by Size of Technology Education Department

Size of Department	Number of Surveys Mailed	Number of Responses	Return Rate Percentage	Percent of Total Respondents
1 Person	49	28	57	25.9
2 People	46	19	41	17.6
3 People	28	14	50	13
4 People	27	20	74	18.5
5 People	19	9	47	8.3
6 People	12	8	66	7.4
7 People	10	7	70	6.5
8 – 15 People	10	3	30	2.8
Totals	201	108	53.7	100

There were four sections to the survey, each dealt with possible problem areas for new teachers. The first section was titled “classroom/laboratory management” problems, the second section was titled “time management” problems, the third section was titled “student discipline”, and the final section was titled “student motivation”. There were three tables of results for each survey section. Tables 4.31, 4.41, 4.51 and 4.61 recorded frequency of response and a group mean score for questions one, two and three for each problem area. Student discipline was used as the example problem area for the question samples. Question one stated: During my first year teaching, problems occurred in the area of student discipline. Question two stated: At the time, I viewed these student discipline problems to be serious, and troublesome. Question three stated: Difficulties with student discipline were frequent, and presented me with problems throughout my first year teaching.

Tables 4.32, 4.42, 4.52, and 4.62 listed frequency of response and group mean score for question four of each problem area. Question four asked: How did you resolve problems with student discipline? Tables 4.33, 4.43, 4.53 and 4.63 in each problem area listed frequency of response and group mean score for question five. Question five asked: When difficulties with student discipline were encountered, how soon did a resolution take place? Student discipline was used again as an example for the questions four and five.

As mentioned, frequencies of response and mean scores were the chosen methods to analyze questions one through five. The frequency of response was the total number of times that respondents answered a question a particular way. For example, a frequency of

“17 agrees” meant that 17 respondents answered “agree” to a particular question. The mean score was the arithmetic average score derived for that question. Each of the five responses was assigned a point value (see tables 3.3, 3.4, 3.5) from one to five. To calculate the mean, sum up all answer values for a question and divide by the number of scores. For example: the total of all answer values for “Time Management Problems Occurred” was 264. This number divided by 108, the total number of respondents, yielded a score of 2.44, which was the mean score for that statement. For the first three questions of each section a mean score of “2” indicated that the respondents as a group agreed with the question. The closer the mean score was to one the more strongly the group agreed with the question. A mean score above three and moving toward five indicated the group disagreed with the statement. A mean score of three indicated that the group neither agreed nor disagreed with the question. For question four a mean score of one indicated the group resolved problems without assistance. A mean score of three indicated the problems were not solved and a mean of five indicated that the group sought assistance for problem resolution. With question number five a mean score of one indicated a quick resolution time of one week, a mean of three indicated a resolution time of a quarter (nine weeks), and a mean of five indicated that the problems were not resolved.

One of the goals for this project was to assemble a list of suggestions from veteran teachers on how to decrease problems encountered by new teachers. The sixth question of each problem area asked respondents to list one piece of advice they could give a new teacher on that particular subject area. Suggestions were separated into groups

using key words or phrases from the teacher comments. For example, many teachers commented that organization was the key to classroom management. Any suggestion that used the word “organization” was separated into this group. Other comments that suggested organization such as good planning, keeping a calendar, building lesson plans or documenting your work were also separated into this group. If key words or phrases were not available the comment was separated by the researcher according to its’ implied meaning. Similar responses were then counted and listed in descending order. No problem area separated into more than four suggestion groups. The suggestion groups for each problem area were listed at the end of each section. A comprehensive list of suggestions for all problem areas was compiled into a new teachers’ advisement guide and appeared in appendix D.

#### *Problem Area One: Classroom/Lab Management Problems*

Question one asked; “During my first year of teaching, problems occurred in the area of classroom/laboratory management.” Eighty-five out of 108 respondents, or 78%, answered strongly agree or agree. The mean score for total respondents of 2.05 indicated that the group agreed that classroom/lab management problems occurred. The frequency scores for this question indicated the majority of teachers believed that classroom/lab management constituted a problem area.

Question two asked; “At the time, I viewed these classroom management problems to be serious, and troublesome.” This question showed a diversity of responses with 57 respondents, or 52%, answering agreed or strongly agreed, but 48 (44%) answered neutral or disagreed. The mean score reflected the diversity with a 2.66 score.

Question three asked; “Difficulties with classroom/laboratory management were frequent, and presented me with problems throughout my first year teaching.” Responses to this question were similar to question two, 58 (54%) respondents answered agree or strongly disagree and 56 (52%) answered neutral or disagree. The “disagree” response was most numerous with 39 respondents. The total mean score of 2.85 still showed a slight tendency toward agreeing with the question. Results for questions one, two, and three were displayed in table 4.31.

Table 4.31 Classroom/Lab Management: Questions 1 – 3

	Question 1		Question 2		Question 3	
	Classroom/Laboratory Management Problems occurred		Problems Were Serious & Troublesome		Difficulties were Frequent Throughout First Year	
	Freq. Count	Freq. %	Freq. count	Freq. %	Freq. count	Freq. %
St. Agree	30	27.8	14	13.0	15	13.9
Agree	55	50.9	43	39.8	33	30.6
Neutral	12	11.1	21	19.4	17	15.7
Disagree	10	9.3	26	24.1	39	36.1
St. Disagree	1	.9	4	3.7	4	3.7
Mean Score	2.05		2.66		2.85	

Question four asked: “How did you resolve problems with classroom management?” Forty-eight respondents (44%) answered that they fixed the problem themselves (answers A and B) and 58 (54%) respondents answered that they sought help in solving the problem (answers D and E). Three respondents answered that they failed to fix the problem. The mean score for this question was 3.16, which indicated that many teachers failed to fix classroom problems during their first year. For this question, the frequency count was used as statistical measurement because the mean score was very misleading, and was not an effective measurement of the answer.

Table 4.32

Classroom/Lab Management: Question 4

Question 4. How did you resolve problems with classroom management?

Answers to Question Four	Frequency	Frequency %
A. I solved the problem myself	26	24.1
B. I solved the problem myself, but it took a while to do so	21	19.4
C. I tried, but failed to fix the problem during my first year	3	2.8
D. I was aware of the problem and sought help from others on how to fix it.	26	24.1
E. I sought assistance from others in order to quickly resolve the issue	32	29.6
Total Respondent Mean Score		3.16

Question five asked; “When difficulties with classroom/laboratory management were encountered, how soon did a resolution take place?” Answers reflected a quick resolution to problems encountered. Seventy-seven respondents (71%) answered A or B which showed a resolution within 2 weeks of problem occurrence. The mean score reinforced this fact with a 1.95 rating.

Table 4.33

Classroom/Lab Management: Question 5

Question five. When difficulties with classroom/lab management were encountered, how soon did a resolution take place?

Answers to Question Five	Frequency	Frequency %
A. I solved the problem myself	52	48.1
B. I solved the problem myself, but it took a while to do so	25	23.1
C. I tried, but failed to fix the problem during my first year	12	11.1
D. I was aware of the problem and sought help from others on how to fix it.	13	12.0
E. I sought assistance from others in order to quickly resolve the issue	3	2.8
Total Respondent Mean Score	1.95	

Question six stated: Please list one piece of advice you can give a new teacher on the subject of classroom/laboratory management. The following four groups, “Clearly Define Classroom Rules and Expectations”; “Organization and planning”; “Have a Firm Discipline Plan” and “Find a Mentor” comprised the most numerous comments in response to question six. Comments were generalized into these groups using key words or phrases.. For example, many teachers commented that organization was the key to classroom management. Any suggestion that used the word “organization” was separated into this group. Other comments that suggested organization such as good planning, building lesson plans or documenting your work were also separated into this group.

#### *Suggestions for Classroom/laboratory Management*

Classroom/laboratory management comments separated into four main groups. These four groups represented 82 respondents or 76% of the total group. Of the remaining respondents, 22 had a variety of comments, such as “Don’t be a teacher” that did not fit into any group. Four teachers did not comment to this question.

#### *Suggestion Group #1: Clearly Define Classroom Rules and Expectations.*

Twenty-eight teachers commented that the key to classroom management was establishing class rules and guidelines. Enforcement of these rules should be done firmly, fairly and immediately. Examples of comments were “be firm, set your rules down immediately”, “the first ten minutes of class is the most important” and “set rules/expectations clearly and early on”. Key separation words/phrases for this group; establish class guidelines, class rules, management plan, follow routine, consequences, take immediate control, and identify expectations.

Suggestion Group #2. *Organization and Planning*. Twenty respondents listed organization and/or good planning as the key to classroom/laboratory management. Some examples of comments were: “Be organized”, “Know your material”, “document everything”, “Be prepared and organized” and “organization is the key!”. All the responses from this group indicated some form of planning or organization was critical to classroom management. Examples of key words or phrases that separated these comments into the planning and organization category were organize, plan, sequence, prepare, document all efforts, keep good records, have a simple plan, and know your material.

Suggestion Group # 3. *Have a Firm discipline Plan*. Nineteen teachers responded that effective classroom/lab management revolved around effective discipline rules and enforcement. This category group stressed controlling student behavior as the key to management. Examples of comments were “be firm but fair”, “you are not their friend”, “if you give an inch they will take a mile”, and “start out strict”. Key words/phrases for separation to this group were discipline, firmness, discipline plan, strict rules, enforcement, be the teacher, troublemaker, and fairness.

Suggestion Group # 4: *Find a Mentor*. Fifteen teachers responded that finding a mentor or using the advice of an experienced colleague would help manage a classroom/laboratory. Comments for this area included “talk with other members of your department”, “work with a veteran teacher”, “find a mentor” and “watch other teachers run their classrooms”. Key words/phrases for group separation were mentor, experienced teacher, advice, get help, colleagues, and seek help.

### *Problem Area Two: Time Management Problems*

The results of this section showed that although problems did occur, they were not viewed as serious, nor did the problems take long to resolve. Results for question one, two, and three were displayed in table 4.41.

Question one: During my first year of teaching difficulties occurred with shuffling a busy schedule and managing my time efficiently. Fifty-nine respondents (54%) answered that there were problems with time management. The mean score of 2.44 indicated slight agreement toward time management as a problem. Question two: At the time, I viewed these problems with time management to be serious, and troublesome. Forty-five respondents (42%) did not agree that problems were serious. The mean was 3.00, which showed a neutral attitude toward time management being a serious problem. Question three: Difficulties with time management were frequent, and presented me with problems throughout my first year teaching. Forty-four respondents disagreed that time management problems were frequent. The mean of 3.02 showed a neutral view of problem frequency.

Table 4.41

Time Management: Questions 1 – 3

	Question 1		Question 2		Question 3	
	Time Management Problems occurred		Problems Were Serious & Troublesome		Difficulties were Frequent Throughout First Year	
	Freq. Count	Freq. %	Freq. count	Freq. %	Freq. count	Freq. %
St. Agree	31	28.7	13	12.0	13	12.0
Agree	28	25.9	24	22.2	24	22.0
Neutral	21	19.4	26	24.1	25	23.1
Disagree	26	24.1	40	37.0	36	33.3
St. Disagree	2	1.9	5	4.6	8	7.4
Respondent						
Mean	2.44		3.00		3.02	
Score						

Question four: How did you resolve problems with time management? A large majority, 82 respondents (76%), answered that time management problems were solved independently, or independently with some time needed for resolution. The mean score of 1.97 supported the frequency score result.

Table 4.42 Time Management: Question Four

Question 4. How did you resolve problems with time management?

Answers to Question Four	Frequency	Frequency %
A. I solved the problem myself.	55	50.9
B. I solved the problem myself, but it took a while to do so.	27	25.0
C. I tried, but failed to fix the problem during my first year.	4	3.7
D. I was aware of the problem and sought help from others on how to fix it.	6	5.6
E. I sought assistance from others in order to quickly resolve the issue.	12	11.5
Total Respondent Mean Score	1.97	

Question five: When difficulties with school administration were encountered, how soon did a resolution take place? Results for this question showed a quick resolution to time management problems but also showed that time management remained a problem for many teachers. Sixty-three respondents (58%) answered two weeks or less for resolution time. A total mean score of 2.49 indicated that problem resolution took between two weeks and a quarter (nine weeks). However, a sizable group of respondents still had problems with time management. Sixteen teachers (15.7%) answered that time management issues had never been resolved.

Table 4.43 Time Management: Question Five

Question five. When difficulties with time occurred, how soon did a resolution take place?

Answers to Question Five	Frequency	Frequency %
A. I solved the problem myself	34	48.1
B. I solved the problem myself, but it took a while to do so	29	23.1
C. I tried, but failed to fix the problem during my first year	10	11.1
D. I was aware of the problem and sought help from others on how to fix it.	13	12.0
E. I sought assistance from others in order to quickly resolve the issue	16	15.7%
Total Respondent Mean Score		2.49

### *Suggestions for Time management Problems*

The following four suggestion groups comprised the most numerous comments made by teachers for advice that involved time management. Comments were generalized into four suggestion groups and titled “Organization and Documentation”, “Time Management takes Time”, “Do What You Can Do”, and “Take Care of Things Immediately”. This represented 91 respondents or 84% of the total group. Of the remaining respondents 10 had comments that could not be put into these four groups and eight teachers did not comment to this question.

Suggestion Group # 1. *Organization and Documentation*. Thirty-three teachers responded that time management problems were reduced with effective organization and documentation techniques. Being organized included the use of daily planners, check lists, and priority lists to help new teachers distribute their time effectively. Documentation included daily planners and check lists as well as developing accurate and effective lesson plans. Key words/phrases used to separate into this category were daily planner, lesson plan, organize a schedule, priorities, check list, planning, preparation and keep a calendar.

Suggestion Group #2. *Time Management takes Time*. Twenty-four teachers responded new teachers need to be prepared to put in extra time during their first years. Examples of comments were “get to work one hour before school starts”, “don’t be afraid to work 16 hour days”, “you have to put in extra time” and “the teaching day doesn’t end at the end of the last hour. Take work home”. Key words/phrases for separation into this group were extra time, work more, time commitment, homework, early, and work late.

Suggestion Group #3. *Do What You Can Do*. Twenty-two teachers responded that new teachers should not overburden themselves about the issue of time management. Restricting how many extra tasks, such as coaching, help a new teacher reduce the tasks faced for the first year. Emphasis for these comments was for new teachers to realize that they “can not do it all” and need to find time for themselves while not at school. Comment examples were “you can only do one thing at a time”, “try not to coach the first semester”, “do not try to reinvent the wheel”, “don’t always take your work home” and “do what you can with the time allotted, one can only do so much. Tomorrows another day!”

Suggestion Group #4. *Take Care of Things Immediately*. Fourteen teachers responded that time management becomes less of a problem if duties were tackled immediately and prep time was used efficiently. Key words/phrases were do it, get things done, prioritize, and do not procrastinate. Comment examples were “prioritize tasks”, “grade papers immediately”, “use prep periods very well”, “when something needs to get done. Do it now!!” and “don’t procrastinate”.

### *Problem Area Three: Student Discipline Problems*

This section showed that respondents viewed student discipline as the most problematic and the most serious of the problem areas surveyed. Results for questions one, two, and three were displayed in table 4.51.

Question one: During my first year of teaching, problems occurred dealing with student discipline. Ninety respondents either strongly agree or agreed that student discipline was a problem. This represented 83% of total respondents. A mean score of 1.99 reinforced that student discipline was viewed as a problem.

Question two: At the time, I viewed these problems with student discipline to be serious, and troublesome. Sixty-three respondents (58%) strongly agreed or agreed that student discipline was a serious problem. The mean score for the entire group of 2.46 showed an overall agreement that student discipline was a serious problem.

Question three: Difficulties with student discipline were frequent, and presented me with problems throughout my first year teaching. This question showed the respondents viewed student discipline as a frequent but not constant problem. A total of 53 respondents (49%) thought discipline to be a frequent problem. A mean score of 2.76 suggested that the respondents believed student discipline was a frequent problem.

Table 4.51

Student Discipline: Questions 1 - 3

	Question 1		Question 2		Question 3	
	Student Discipline Problems occurred		Problems Were Serious & Troublesome		Difficulties were Frequent Throughout First Year	
	Freq. Count	Freq. %	Freq. count	Freq. %	Freq. count	Freq. %
St. Agree	29	26.9	22	20.4	17	15.7
Agree	61	56.5	41	38.0	36	33.3
Neutral	8	7.4	18	16.7	16	14.8
Disagree	7	6.5	22	20.4	33	30.6
St. Disagree	2	1.9	3	2.8	5	4.6
Respondent						
Mean	1.99		2.46		2.75	
Score						

Question four: How did you resolve problems with student discipline? This question, like question four in classroom management, showed a contradiction between the mean score and the frequency score. The frequency counts showed that 103 of 108 respondents resolved discipline problems themselves or with the help of others. The mean score of 3.04 suggested the opposite, that discipline problems were attempted but failed to resolve the problem.

Table 4.52

Student Discipline Results: Question Four

Question 4. How did you resolve problems with Student Discipline?

Answers to Question Four	Frequency	Frequency Percentage
I solved the problem myself	36	33.3
I solved the problem myself, but it took a while to do so	10	9.3
I tried, but failed to fix the problem during my first year	5	4.6
I was aware of the problem and sought help from others on how to fix it.	23	21.3
I sought assistance from others in order to quickly resolve the issue	32	29.6
Total respondent Mean Score	3.05	

Question five: When difficulties with student discipline were encountered, how soon did a resolution take place? Results from this question showed a fast resolution rate for student discipline problems. Seventy-seven respondents (71%) indicated that discipline problems were resolved within two weeks of occurrence. Ten subjects (9%) responded that they were never resolved. The mean score of 1.99 indicated an average resolution time of two weeks for discipline problems.

Table 4.53

Student Discipline Results: Question Five

Question 5. When difficulties with student discipline were encountered, how soon did a resolution take place?

Answers to Question Five	Frequency	Frequency %
Immediately, within a week of occurrence	56	51.9
Very quickly, within two weeks of occurrence	21	19.4
It took a quarter to fully resolve the issue	11	10.2
It took a semester to resolve issue	8	7.4
A resolution never occurred	10	9.3
Total Respondent Mean Score		2.01

### *Suggestions for Student Discipline Problems*

The following three suggestion groups comprised the most numerous comments made by teachers for advice that involved student discipline. These groups were titled “Establish a Set of Rules and Enforce Them”, “Enlist the Support of the Administration/parents”, and “Start Out Tough”. The most numerous response group had 60 suggestions, the second group had 19, and the third group had 15 respondents. This represented 94 respondents or 87% of the total group. Of the remaining respondents, 10 had comments that could not be put into these three groups and four teachers did not comment to this question.

Suggestion Group #1. *Establish a Set of Rules and Enforce Them Firmly, Fairly and Immediately.* Sixty respondents responded that discipline problems were reduced when new teachers dealt with discipline in a firm, fair and honest manner. Discipline rules should be listed or posted in the room and all students should be made aware of them. A discipline plan should be followed and documented. Any infractions of rules should be acted upon immediately and in a firm, consistent manner. Some of the key words/phrases were classroom rules, establish, immediate enforcement, consistency, and firm. Examples of comments were “be fair and consistent”, “be fair and equal”, “follow through with discipline plan”, “have rules and stick by them” and “have written classroom rules and expectations posted, deal with problems quickly and fairly’.

Suggestion Group #2. *Enlist the Support of the Administration/parents.* Nineteen respondents suggested that new teachers needed to actively involve the administration or parents when dealing with discipline problems. Some of the key words/phrases were

administration, parents, get support, call home. Comments examples were “call home often”, “get parents involved”, “have principal review class discipline plan”, “make sure the principal will help you with discipline problems” and “ find out what the administration’s approach toward discipline was”.

Suggestion Group #3. *Start out Tough*. Fifteen teachers responded that new teachers needed to react very quickly and firmly to discipline issues. The comments were similar to group #1 but stressed the point of being “tough” immediately especially on students who were “troublemakers”. Examples of comments were “ start out tough, you can always get nicer”, “be tough right away”, “start out tough”, “deal immediately with student who are a discipline problem” and “don’t even screw around with detentions, kick troublemakers out of class as many times as you have to”.

#### ***Problem Area Four: Student Motivation Problems***

This sections results showed student motivation to be a problem, but not a serious one. The results also showed that motivation problems were not frequent; the individual resolved them and problem resolution took about 2 weeks. Results for the first three questions appeared in table 4. 61.

Question one: During my first year of teaching, problems occurred pertaining to student motivation. Fifty-eight respondents (54%) agreed or strongly agreed that student motivation was a problem. The mean score for the entire group of 2.66 indicated that student motivation problems did occur. .

Question two: At the time, I viewed student motivation problems to be serious, and troublesome. Respondents to this question were split between agree, neutral and disagree. Thirty respondents (28%) answered agree, 33 (31%) answered neutral, and 32 (30%) disagreed that motivation problems were serious or troublesome. The total respondent mean score of 2.92 showed a slight agreement that motivation problems were serious or troublesome.

Question three: Difficulties with student motivation were frequent, and presented me with problems throughout my first year teaching. Results for this question also showed a diversity of answers. Forty-seven respondents (44%) disagreed that motivation problems occurred frequently. Thirty-two respondents agreed that motivation problems were frequent while 28 answered neutral to the question. The mean score of 3.11 showed a slight disagreement that motivation was a frequent problem.

Table 4.61

Student Motivation : Questions 1 - 3

	Question 1		Question 2		Question 3	
	Student Motivation Problems occurred		Problems Were Serious & Troublesome		Difficulties were Frequent Throughout First Year	
	Freq. Count	Freq. %	Freq. count	Freq. %	Freq. count	Freq. %
St. Agree	11	10.2	9	8.3	10	9.3
Agree	47	43.5	30	27.8	22	20.4
Neutral	20	18.5	33	30.6	28	25.9
Disagree	25	23.1	32	29.6	40	37.0
St. Disagree	3	2.8	3	2.8	7	6.5
Respondent						
Mean	2.64		2.91		3.11	
Score						

Question four: How did you resolve problems with student motivation? Results to this question showed that teachers resolved motivational problems primarily by themselves. Fifty-six respondents (55%) responded they solved motivation problems by themselves. Another 13 (12%) answered that they solved the problem themselves but took a while to do so. These two groups represented 68% of the total respondents. The mean score of 2.18 showed that problems were solved individually, but not immediately.

Table 4.62 Student Motivation Results: Question Four

Question 4. How did you resolve problems with student motivation?

Answers to Question Four	Frequency	Frequency %
A. I solved the problem myself.	56	51.9
B. I solved the problem myself, but it took a while to do so.	13	12.0
C. I tried, but failed to fix the problem during my first year.	6	5.6
D. I was aware of the problem and sought help from others on how to fix it.	10	9.3
E. I sought assistance from others in order to quickly resolve the issue.	16	14.8
Total Respondent Mean Score		2.18

Question five: When difficulties with student motivation were encountered, how soon did a resolution take place? Forty-two (43%) respondents reported an immediate resolution and 20 (21%) reported a two-week resolution time for motivational problems. Twelve respondents (11%) reported that problems were never solved. The mean score for question four was 2.21 and indicated a resolution time slightly longer than two weeks.

Table 4.63

Student Motivation Results: Question Five

Question 5. When difficulties with student motivation were encountered, how soon did a resolution take place?

Answers to Question Five	Frequency	Frequency %
Immediately, within a week of occurrence	42	38.9
Very quickly, within two weeks of occurrence	20	18.5
It took a quarter to fully resolve the issue	17	15.7
It took a semester to resolve issue	6	5.6
A resolution never occurred	12	11.1
Total respondent Mean Score	2.24	

### *Suggestions for Student Motivation Problems*

The following four suggestion groups comprised the most numerous comments made by teachers for advice that involved student motivation. The groups were generalized and titled “Make Learning Relevant and Fun”, “Get to Know Your Students”, “Motivation Comes from the Teacher”, and “Some students are Difficult to Motivate. These four groups represented 94 respondents or 87% of the total group. Of the remaining respondents four had comments that could not be put into these four groups and nine teachers did not comment.

Suggestion Group #1. *Make Learning Relevant and Interesting*. Thirty-nine teachers commented that motivation revolved around up to date curriculum, interesting projects, and material relevant to the student’s perspective. Key words/phrases were relevant, modern, be with the times, new, do not use old curriculum. Comments included “get them excited and they will want to learn”, “high interest projects”, “provide relevant information and interesting projects”, and “make course content meaningful, necessary, and fun”.

Suggestion Group #2. *Get to Know Your Students*. Twenty-three teachers believed that teacher interest and excitement in the students helped reduce motivation problems. Key words/phrases were, know your kids, find out, be interested, and memorize their names. Ideas or comments to this area included “try to find common interests as a starting point with a student”, “remember that each student is different”, “get to know the students, relate to them”, and “use varied techniques and a lot of individual attention with your students. Get to know them and work from there”.

Suggestion Group #3. *Motivation Comes From the Teacher*. Seventeen teachers responded that motivation problems could be reduced if the teacher was excited and positive about the class, subject or lesson. Comments included “ your attitude and enthusiasm toward your subject has a lot to do with involvement and participation”, “you need to show some passion about what you’re teaching...”, “be positive”, and “look in the mirror? Would you want to be in your class?”

Suggestion Group #4. *Some Students are Difficult to Motivate*. Fifteen teachers commented that a few students might always be motivation problems and the teacher should worry about the students they could motivate. Comments on how to deal with unmotivated students varied from “don’t give up on the low-motivators, they sometimes come around” to “fail the student who is unmotivated. It sends a message to all the others”. Other comments included “you can’t save every student. Some will choose to fail”, “you will not be able to motivate every student”, “A new teachers feels they are going to save the world! Not going to happen!!”, “ Don’t give up on a student, if it’s going to happen, let the student give up on themselves”.

#### *Summary of Results*

The overall results for the survey showed the majority of teachers believed that problems were encountered during their first year of teaching. Not all the problem areas were perceived as serious and only in two of the areas were the problems deemed frequent. Problem resolution time was approximately two weeks, with most problems being fixed by the individual teacher.

Problems were viewed to have occurred in all four areas of the survey, classroom management, time management, student discipline and student motivation. Student discipline was perceived to be the most problematic area with 90 teachers in agreement, followed by classroom management (85 in agreement), time management (58 in agreement) and student motivation (57 in agreement). The mean scores for problems occurring supported this trend. The mean for student discipline was 1.99, classroom management 2.05, time management 2.44 and student motivation 2.64.

While problems were viewed to have occurred in all four areas, teachers only viewed student discipline and classroom/lab management as being serious or troublesome problems. Sixty-three teachers viewed discipline as a serious problem; the mean for discipline was 2.46. Classroom management was also viewed as troublesome with 57 teachers in agreement and a mean of 2.66. Student motivation was viewed as slightly troublesome with 39 teachers in agreement and a mean of 2.91. Time management was not viewed as a serious problem with only 37 teachers in agreement and a mean score of 3.00.

Student discipline and classroom/laboratory management was ranked as the most frequent problem to new teachers. Student discipline problems were viewed as the most frequent with 57 teachers in agreement and a mean of 2.75. Forty-eight teachers, with a mean score of 2.85, viewed classroom management problems as frequent. Time management and student motivation were not viewed as frequent problems. Thirty-seven teachers agreed to time management problems being frequent while 32 teachers agreed to problems with student motivation being frequent. Time management frequency showed a

mean score of 3.02 and student motivation's mean score for frequency was 3.11.

Resolution to problems occurred in two ways; the teacher solved the problems themselves or they sought assistance from colleagues in order to resolve the issue. Using both techniques most problems were viewed as resolved. In classroom/lab management, 97% of the teachers viewed problems as resolved, for time management it was 94% of respondents. Student discipline showed 95% of respondents resolving problems and student motivation recorded 94% of respondents viewing problems as being solved. The mean score for classroom management and student discipline were misleading and did not support the viewpoint that problems were solved. The means for these areas were 3.16, and 3.05 respectively. The means for time management and student motivation supported the view that problems were solved in these areas. A mean for time management of 1.97 showed that this area had the most teachers resolving problems by themselves. The mean score of 2.18 for student motivation showed that the individual teacher solved problems in this area.

The speed of resolution to problems in all four areas was viewed as having taken approximately two weeks. The mean scores showed that that problems in classroom/lab management were fixed the quickest, followed by student discipline, student motivation and time management. The mean scores were classroom management 1.95, student discipline 2.01, student motivation 2.24 and time management 2.49. All of these mean scores indicated resolution times of two weeks or slightly longer.

Question six asked for teacher advice on how to help solve problems associated with each topic. Suggestions were analyzed and separated into common response categories. The suggestion groups that were listed constituted the majority of responses in each category. The percent of comments included in each of the suggestion groups was classroom/lab management 76%, time management 84%, student discipline 87% and student motivation 87%. In each topic area there were a variety of comments that did not fit into the listed suggestion groups, nor were they similar enough to each other to group them together. Therefore, they were not listed in the topic areas. A more detailed analysis of the suggestions and the new teachers' advisement guide follows in chapter five.

## CHAPTER FIVE

### *Summary, Conclusions and Recommendations*

This chapter contained the summary of results for this study and was broken into five sections; (1) the summary of the study, (2) conclusions as they pertained to the research objectives, (3) synopsis, (4) researcher observations, and (5) recommendations based on the information drawn from the study. The summary provided a restatement of the problem, an overview of the methods and procedures, and a brief review of the results from the study. An interpretation of the data and results with regard to the research objectives is provided in the conclusion section. In the comment section, the researcher comments on what were the significant results and suggestions of the study. Comments were also made about mistakes made during the execution of the study. The recommendation section provided a list of potential uses for the results of this study as well as suggestion for future study. A annotated list of veteran teachers' suggestions and comments was produced and titled "A New Teacher's Compendium: Advice from Veteran Technology Education Teachers". The Compendium was found in appendix C

*Summary*

The purpose of this study was to provide a short, practical reference list of suggestions that would help a new technology education teacher resolve problems encountered during their first year. Effective management skills were perceived by practitioners as important to a technology education teacher's success, yet there was no practical guide to aid new teachers in learning these skills. New technology teachers, like all teachers, need professional support during their first year. A short reference guide

would provide new technology education teachers with a resource on how to avoid potential problems areas and make their first year less stressful. A review of literature showed that classroom management, time management, student discipline and student motivation were the most common problem areas encountered by new teachers. These four problem areas formed the basis for a survey instrument designed to ask veteran technology education teachers their opinions and solutions to problems encountered during their first years. The new teachers' advisement guide was compiled using comments and suggestions collected by the survey and appeared in appendix C.

The subjects for the survey were practicing technology education teachers teaching in the state of Wisconsin. Two hundred one subjects were randomly drawn from a stratified list of technology education teachers; 108 surveys were returned and formed the basis of information for this study. The survey had four topic areas covering classroom/lab management, time management, student discipline and student motivation. Each problem area had six questions, five of the six were dedicated to discovering general teacher opinions on the problem area and the sixth question asked for advice on how to lessen or eliminate problems in that area. Data was collected from the first five questions and was discussed in the conclusions section of this chapter. Advice and suggestions collected from question six were also discussed later in this chapter. The suggestions also provided the basis for the new teachers' advisement guide found in appendix C.

The findings of the study showed that a strong majority of teachers agreed that during their first year, problems occurred in one or more of the problem areas,

classroom/lab management, time management, student discipline or student motivation. Only two of the areas, classroom management and student discipline, were problems perceived as being serious. Of the four areas questioned, student discipline was judged to be the area of the most serious and the most frequent problems. Time management was viewed as the area with the least serious problems and student motivation was viewed the area with the least frequency of problems. The study results showed problem resolution time was consistent across all four areas of the survey and averaged slightly more than two weeks. However, teachers were split on how problems were solved. Two of the areas, time management and student motivation, showed the majority of teachers solved the problems themselves. The other two areas, classroom/lab management and student discipline, showed the majority of teachers sought the advice or assistance of others on how to solve the issue.

### *Conclusions*

The following section contained discussion of the study results compared to research objectives outlined in chapter one. Significant results from the study were discussed in this section.

Objective 1. Identify if classroom/laboratory management, time management, student discipline and student motivation were problematic areas for new technology education teachers.

The literature review identifies outlined all areas surveyed, classroom management, time management, student discipline and student motivation, as problematic areas for new teachers. The results of this study supported the literature

review as a majority of the respondents encountered problems in all four problem areas. The respondents to the survey viewed student discipline as the most problematic area, followed by classroom management, time management and student motivation problem areas.

Objective 2. Determine if first year technology education teachers identified problems in the four areas as serious or troublesome problems.

Two of the problem areas were perceived as serious. Student discipline (59.4% of respondents) was perceived as having the most serious problems, followed by the classroom/laboratory management (52.8%) problem area.

Objective 3. Determine if first year technology education teachers sought help to resolve encountered problems.

Results show that many teachers relied upon their own skill or innovation to resolve problems. A large majority of respondents resolved their own problems with time management and student motivation and a large percentage, 43% and 44% respectively, resolved their own problems with discipline and classroom management. Classroom management (53.7% of respondents) and student discipline (50.9%) were the areas where most teachers requested help from colleagues.

Objective 4. If problem resolution occurred, determine the approximate amount of time it took to resolve the issue.

The study results showed problem resolution time was consistent across all four areas of the survey and averaged slightly more than two weeks.

Objective 5. Identify techniques and suggestions to reduce or eliminate problems in classroom/laboratory management, time management, student discipline, and student motivation. Using the most numerous suggestions for each problem area, create a short list of advice to help new technology education teachers resolve or lesson problems encountered during the first year.

A list of suggestions and advice was compiled for each problem area. The suggestions were analyzed by the researcher for common words and ideas and separated into groups of like comments. The majority of the suggestions were categorized into three or four groups for each problem area. The suggestion groups were then compiled into one advisement pamphlet titled “A New Teacher’s Compendium: Advice from Veteran Technology Education Teachers”. This pamphlet was presented in appendix C and is further discussed in the synopsis and researcher’s comments.

### *Synopsis*

Many new technology education teachers experienced problems during their first year of teaching. Prior research and the results of the study confirmed this observation.

Answers to questions from the survey gave an indication of what problems were encountered but it was suggestions and advice from experienced teachers that gave a hint as to *why* problems occurred. Suggestions for problem resolution indicated many new teachers had trouble with organization skills, enforcement of rules/being in authority, and assuming a leadership position. The fact that respondents of this study listed student discipline and classroom management as the most problematic areas encountered during

the first year appeared to reinforce the notion that new teachers lacked these skills. It also inferred that collegiate technology education programs were not teaching these management skills, or not teaching them effectively. The researcher received two letters from survey participants; one teacher stated that the college he attended did not adequately prepare him with the skills necessary for the technology education laboratory. The other teacher, a student teacher overseer and mentor to 10 new technology teachers, also believed that technology education graduates lacked the technical and mechanical skills necessary for effective laboratory management. Success in controlling discipline relied heavily on the teacher taking a leadership position in the classroom; the high problem response rate for student discipline indicated that new technology education teachers were deficient or had not acquired leadership or authority skills. Control of a classroom/laboratory also relied heavily on a teacher's management technique, technical skills and being organized. Yet the results of the study inferred that new technology education teachers lacked organizational or technical skills.

Student discipline was the most frequent problem area for new teachers. Respondents found the student discipline area to have the most numerous, the most serious and the most frequent problems of the four areas surveyed. The most numerous suggestions for solving student discipline problems were establishing rules, and firm, fair enforcement of those rules. Because the respondents viewed student discipline as a problem area it could be assumed that new teachers struggle with implementing and enforcing rules.

Time management problems were judged to be less numerous and less serious than with classroom/laboratory management or student discipline. Many suggestions for solving time management problems stressed organization, scheduling of tasks and efficient use of “free” time. These suggestions again indicated that during the first year respondents were deficient in organization skills. Several comments also stated “things would get better”, suggesting that time management skills were learned skills acquired through on the job training.

Student motivation was viewed as the area with the least problems. Advice for student motivation problems was not centered on organizational skills, but rather on making learning fun, and relevant, and getting to know or showing interest in the students. The lower problem rate for this area suggested that new teachers possessed more motivational skills than organizational skills.

Although the study was only concerned with the first year of teaching there were indications that some problems are never completely resolved. Sizable groups of respondents viewed time management, student discipline and student motivation problems as never resolved. Many suggestions hinted that problems were ongoing in these areas.

### *Researcher Observations*

This section discusses the aspects of the study that the researcher believed to be important. Important aspects discussed included observations on the survey results, and teacher suggestions as well as mistakes made during the course of the study.

The survey return rate for this study was 53.7%, a rate well above the planned 35% return. The researcher believed the excellent return rate was due to the goal of study, which was to try to help new technology education teachers adapt to their profession. The majority of the respondents encountered problems in one or more of the problem areas during their first year and might have believed that their comments and suggestions could be of help to new teachers.

The survey results reinforced what prior research had established; new technology education teachers, like all new teachers, encountered problems during their first year. The four pre-identified problem areas were indeed problem areas for new technology education teachers. Survey results inferred another problem that new teachers encountered; lack of support from colleagues or administration. A majority of the survey participants responded that they resolved problems by themselves. The survey did not ask whether independent problem resolution was by choice or by necessity, but either way, the problem remained the same; new teachers were often on their own to resolve encountered problems. The respondents also regarded student discipline as the most common, and the most serious problem encountered. Again, this opinion supports the conducted research that discipline was a problem for schools and teachers.

The comments and suggestions that were given for problem solutions were very

diverse. There were many suggestions that replicated what educational writers have suggested about problem solutions. Both the educational writers and many of the respondents stated that the best problem resolution was to act *before* problems were encountered by being organized, efficient and prepared. Many of the general educational advice materials, most notably Wong and Wong's book *The First Days of School* (1998), suggested using the same arsenal of techniques that many of the respondents stated. However, there was a group of respondents who voiced opinions that a person would not find in educational advice, at least not phrased so bluntly. Some of the more blunt comments were "fail the students who are not motivated. It sends a message to all others", "Don't be a teacher", "It is the responsibility of the student to stay motivated... I always say we need somebody to flip burgers and sweep floors", "You can't save every student. Some will choose to fail", and "don't even screw around with detentions, kick troubled students out of class as many times as you have to..." Most of the blunt comments pertained to student motivation and student discipline and suggested a slightly harsher view of classroom life than many educational sources would suggest.

Two unexpected results presented themselves during the course of the study. Both involved mistakes made by the researcher in constructing the survey. The first, and most obvious mistake was the years of experience. The survey had one background question asking teachers to categorize their years of teaching experience. The options were 1-2, 3-4, 5-7, 8-10 and 11+ years experience. The results showed an unexpectedly high number of teachers, 77 or 108 respondents (71.3%), had 11+ years of experience. This unexpected statistic affected the results for most comparisons involving years of

experience. One of the lower experience groups (8 - 10 yrs.) had only three respondents, another (1 – 2 yrs.) had only five. The mean score of a group of three respondents did not have the accuracy of a group with 77 respondents. Therefore the researcher chose to abandon any opinion comparisons based on years of experience. A better and more accurate alternative would have been an open ended question such as “How many years of experience do you have?” with no categories to choose from.

The second mistake involved question four of the survey. Question four’s mean scores were very misleading for the classroom/laboratory management and student discipline areas. The means scores for these areas were 3.16 and 3.05 respectively. This suggested that problems in these areas were mainly unresolved. In reality, out of 108 respondents, only four in the classroom, and five in the student discipline areas responded that problems went unresolved. In both problem areas, approximately half the respondents answered that problems were resolved individually (answers one and two), or resolved with some help from others (answers four and five). The average or mean answers for these respondents calculated to approximately three, for which the answer was “I tried, but failed to resolve the problem during my first year”. In both classroom/laboratory management and student discipline the calculated mean score was drastically different than the actual results. The researcher could have avoided this error with a better vision of what the outcome of the question would be, rather than on concentrating on what the question was asking.

Based on the research conducted, and the results of this study, the researcher believed many technology education teachers had a very difficult, and trying first year of

teaching. Research has shown that any support a new teacher received was usually appreciated and greatly enhanced the chances that the teacher will stay in the profession. The problem resolution suggestions gathered for this study were compiled and titled “The New Teachers’ Compendium: Strategies and Tips from Veteran Technology Education Teachers”. The Compendium was designed as a support tool for new and struggling technology education teachers and was included in appendix C. The Compendium was not intended as an answer guide to problems. It was intended as an advice guide with suggestions that new technology education teachers had to *implement* in their classrooms. Many of the suggestions require a lot of work on the part of the teacher, but then again, teaching is hard work.

### *Recommendations*

Further study on new technology education teachers’ difficulties during the first year is recommended. to expand and assist the field of technology education. Several other possible suggestions and questions for further study have been list below.

Retiring teachers: How many technology education teachers are going to retire in the next 5/10 years? Will there be enough new teachers to replace them?

Attrition rate: The national attrition rate for new teachers was 33% loss for first three years. Does technology education suffer the same rate of attrition?

Problem Resolution: This study suggested that many technology education teachers resolved problems individually with little or no help from others. Is this by choice or necessity?

Laboratory Management Skills: This results of this study indicated that new technology education teachers often lacked the leadership, organizational and technical skills necessary for effective laboratory management. Are leadership skills being taught, *and learned* in technology teacher education programs? Do technology education graduates have the technical skills needed to operate a laboratory effectively? What is more important to a technology education teacher; organizational or technical skills?

The researcher recommended that in the best interest of technology education and education as a whole that any and all professional educators including, but not restricted to veteran teachers, school administrators and college educators, help new technology education teachers, and new teachers in any way possible. The fact that teachers continue to leave the profession in large numbers, coupled with an aging teacher workforce make it imperative that new teachers should receive the support necessary to succeed. It is further recommended that an effort be put forth to increase the amount of basic literature specific to technology education. Ideas for lab projects and curriculum innovations existed, but ideas that helped technology education teachers learn basic *teaching* and *management skills* were not available. In accordance with the above statement it is suggested that the “New Teachers’ Compendium: Strategies and Tips from Veteran Technology Education Teachers” be made available to first year teachers, aspiring teachers, department heads and any professional who mentors, educates, or oversees new or potential teachers.

The researcher also recommends that the study be presented to professional journals and publications devoted to technology or industrial technology education with the idea of presenting the New Teachers' Compendium to technology education teachers and other education professionals.

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## APPENDIX A

### Survey for the New Teachers' Compendium: Strategies and Tips from Veteran teachers

#### 1. Classroom/Laboratory Management

- 1.1 During my first year of teaching, problems occurred in the area of classroom/laboratory management.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

- 1.2 At the time, I viewed these classroom management problems to be serious, and troublesome.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

- 1.3 Difficulties with classroom/laboratory management were frequent, and presented me with problems throughout my first year teaching.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

- 1.4 How did you resolve problems with classroom management?

- A. I solved the problem(s) myself.
- B. I solved the problem(s) myself, but it took a while to do so.
- C. I tried, but failed to fix the problem during my first year.
- D. I was aware of the problem and sought help from others on how to fix it.
- E. I sought assistance from experienced colleagues in order to quickly resolve the issue.

- 1.5 When difficulties with classroom/laboratory management were encountered, how soon did a resolution take place?

- A. Immediately, within the week of occurrence
- B. Very quickly, within two weeks of occurrence.
- C. It took a quarter to fully resolve the issue.
- D. It took a semester to fully resolve the issue.
- E. A resolution never occurred during my first year.

- 1.6 Please list one piece of advice that you could give to new teacher on the subject of classroom/laboratory management.

## 2. Time management

2.1 During my first year of teaching difficulties occurred with shuffling a busy schedule and managing my time efficiently

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

2.2 At the time, I viewed these problems with time management to be serious, and troublesome.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

2.3 Difficulties with time management were frequent, and presented me with problems throughout my first year teaching.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

2.4 How did you resolve problems with time management?

- A. I solved the problem(s) myself.
- B. I solved the problem(s) myself, but it took a while to do so.
- C. I tried, but failed to fix the problem during my first year.
- D. I was aware of the problem and sought help from others on how to fix it.
- E. I sought assistance from experienced colleagues in order to quickly resolve the issue.

2.5 When difficulties with school administration were encountered, how soon did a resolution take place?

- A. Immediately, within the week of occurrence
- B. Very quickly, within two weeks of occurrence.
- C. It took a quarter to fully resolve the issue.
- D. It took a semester to fully resolve the issue.
- E. A resolution never occurred during my first year.

2.6 Please list one piece of advice that you could give to new teacher on the subject of working with school administrations.

### 3. Student Discipline

3.1 During my first year of teaching, problems occurred dealing with student discipline.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

3.2 At the time, I viewed these problems with student discipline to be serious, and troublesome.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

3.3 Difficulties with student discipline were frequent, and presented me with problems throughout my first year teaching.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

3.4 How did you resolve problems with student discipline?

- A. I solved the problem(s) myself.
- B. I solved the problem(s) myself, but it took a while to do so.
- C. I tried, but failed to fix the problem during my first year.
- D. I was aware of the problem and sought help from others on how to fix it.
- E. I sought assistance from experienced colleagues in order to quickly resolve the issue.

3.5 When difficulties with student discipline were encountered, how soon did a resolution take place?

- A. Immediately, within the week of occurrence
- F. Very quickly, within two weeks of occurrence.
- G. It took a quarter to fully resolve the issue.
- H. It took a semester to fully resolve the issue.
- I. A resolution never occurred during my first year.

3.6 Please list one piece of advice that you could give to new teacher on the subject of dealing with student discipline.

#### 4. Student Motivation

4.1 During my first year of teaching, problems occurred pertaining to student motivation.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

4.2 At the time, I viewed student motivation problems to be serious, and troublesome.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

4.3 Difficulties with student motivation were frequent, and presented me with problems throughout my first year teaching.

Strongly Agree      Agree      Neutral      Disagree      Strongly Disagree

4.4 How did you resolve problems with student motivation?

- A. I solved the problem(s) myself.
- B. I solved the problem(s) myself, but it took a while to do so.
- C. I tried, but failed to fix the problem during my first year.
- D. I was aware of the problem and sought help from others on how to fix it.
- E. I sought assistance from experienced colleagues in order to quickly resolve the issue.

4.5 When difficulties with student motivation were encountered, how soon did a resolution take place?

- A. Immediately, within the week of occurrence
- J. Very quickly, within two weeks of occurrence.
- K. It took a quarter to fully resolve the issue.
- L. It took a semester to fully resolve the issue.
- M. A resolution never occurred during my first year.

4.6 Please list one piece of advice that you could give to new teacher on the subject of dealing with student motivation.

## APPENDIX B

This is a copy of the consent form sent out to all survey recipients. It was obtained from the University Wisconsin Stout Solutions-Research Services Website (<http://www.uwstout.edu/rps/humnsbj.htm>). All survey participants were sent a consent form to ensure the protection of human subjects criteria outlined by the University Wisconsin Stout. The consent form stated that survey participation was voluntary and by returning the survey the subject was giving his/her permission to use their information.

### **Consent form**

I understand that by returning this questionnaire, I am giving my informed consent as a participating volunteer in this study. I understand the basic nature of the study and agree that any potential risks are exceedingly small. I also understand the potential benefits that might be realized from the successful completion of this study. I am aware that the information is being sought in a specific manner so that only minimal identifiers are necessary and so that confidentiality is guaranteed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice.

NOTE: Questions or concerns about the research study should be addressed to Thomas Kaufmann, 315 3rd Ave., Knapp, WI, 54749 phone (715) 665-2246 or Dr. Jerome Johnson , phone number (715) 232-1457. Questions about the rights of research subjects can be addressed to Sue Foxwell, Human Protections Administrator, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 Harvey Hall, Menomonie, WI, 54751, phone (715) 232-1126.

## APPENDIX C

### **The New Teacher's Compendium: Strategies and Tips from Veteran Teachers**

The following list was a compilation of suggestions and ideas from 108 veteran teachers on how to solve or reduce problems often faced by first year technology education teachers. The list has suggestions to four common problem areas encountered by new teachers; Classroom/Laboratory Management, Time Management, Student Discipline, and Student Motivation.

The original respondents' suggestions and comments were analyzed for general content and meaning by the use of key words and phrases. For example, key words or phrases for the classroom/lab management section were organization, planning, documentation, class rules, class management plan, and use a daily planner. Lacking any key words or phrases, suggestions were analyzed by the researcher according to his interpretation of their meaning. The surveys were then sorted into groups of like responses. For each problem area, the responses were counted, given a title that described the common characteristics of the comments in the group, and listed in descending order according to the number of responses per group.

The numbered headings under each problem area represent a common area of suggestions for that problem. Bulleted items underneath a numbered heading were paraphrased by the researcher, and represent either suggestions repeated numerous times within the suggestion group, or were judged to be important or insightful by the researcher.

## **The New Teacher's Compendium:**

Strategies and Tips from Veteran Technology Education Teachers

### **Suggestions to Reduce Problems in Classroom and Laboratory Management**

1. *Clearly Define Classroom/Laboratory Rules and Expectations.*

- Establish and post **class/laboratory rules and guidelines** on the first day of class. Make sure all students are aware of the rules and the consequences for rule violations.
- Students need to know exactly what is expected of them
- Any infraction of the rules should be dealt with **immediately**, and in a **firm, fair** and **consistent** manner.

2. *Organize and know your material.*

- A teacher can never be too **organized**.
- **Do not** wait until the last minute to gather materials or papers.
- **Do not** run a demonstration in the lab without trying it before hand, even if you have done it before.
- **Know** and **organize** your material into solid lessons and **do not** try to “wing it”; the students sense very quickly if you know what you are talking about.

3. *Have a Firm Discipline Plan and be Prepared to use it.*

- Make sure the **students know your discipline rules** and your tolerance level.

- **Do not hesitate to remove** a student from the laboratory that might be a safety concern.
- **Always** carry through with a punishment.
- **Document** any discipline problems and let the administration know of any problems.

4. *Find a Mentor/Friend.*

- **Find a colleague**, preferably someone in your department, that can help you through hard times. Many times they will have good lessons or ideas you can use, or maybe they taught the same class a few years ago and have materials you can use.
- **Talk to teachers** about the students, if you are a first year teacher, chances are they know most of your students and have had them before.

**Suggestions to Reduce Problems with Time Management**

1. *Organization and Documentation.*

- Use a **daily planner** and map out your day before the school day starts.
- **Know** what you are going to do with your **prep time** before the period starts.
- Use the daily planner to **prioritize** tasks each day, such as machine maintenance, and try to accomplish the most important ones.
- Try to have papers or laboratory materials ready **before the school day starts.**

- **Document** your lessons to help your efforts for **the next time** you teach the subject.
- If opportunity presents itself, try to **organize for future lessons** or laboratory projects.

2. *Time Management Takes Time.*

- Be **prepared to put in extra time** during your first year. One hour before or after school, when the students are not present, is a perfect time to organize materials for the coming/next day.
- Do some things at home where the atmosphere may be more relaxing.
- **Things get better** as your experience grows and class materials accumulate.

3. *Do What You Can Do.*

- Do not let time management ruin your day. Put in an **honest effort** and move on.
- After the school day is over make sure you **leave time for yourself**.
- Try not to schedule extra duties such as coaching, during your first year.

4. *Take Care of Issues Immediately.*

- **Do not procrastinate** and put things off. You never know what will happen tomorrow.

## **Suggestions to Reduce Problems with Student Discipline**

### 1. *Establish, Post and Enforce.*

- **Establish** your set of discipline rules, **post** them in the classroom and make sure all students are **aware** of them and **enforce** them immediately if an infraction occurs.
- Students need to know what is expected of them.
- Enforce in a **firm, fair** matter with a response appropriate for the infraction.
- In the laboratory, be aware that good student discipline habits are directly linked to **good safety habits**.
- **Never back down** on enforcement of your rules.

### 2. *Enlist the Support of the Administration or Parents.*

- No discipline plan should be implemented without **verifying** it with the administration.
- **Warn the principal/dean** that you might be having problems with certain students.
- **Document** discipline issues as proof of misbehavior patterns.
- **Notify parents** of inappropriate behavior, they can often discipline more effectively than you can.

3. *Start Out Tough.*

- Take an **extreme stand** immediately with any student conduct infraction.
- Be their teacher, not their buddy.
- **Make examples** of the first few students who misbehave. Send them to the office or have them scrub sinks during class or after school.
- Do not let infractions “slip buy”, you can always relax rules later in the semester, but **once discipline starts to erode you can never bring it back.**

**Suggestions to Reduce Problems with Student Motivation**

1. *Make Learning Relevant and Fun.*

- Make your lesson information as **relevant** to the student’s world as possible.
- Use modern curriculum and materials.
- Make laboratory demonstrations as interesting as possible.
- Allow **students to choose** and plan their own projects rather than a “canned” project.

2. *Get to Know Your Students.*

- Make an effort to talk to, and **get to know your students.**
- **Memorize names** as quickly as possible.
- Take an **interest in student’s hobbies**, sporting events or extracurricular activities.
- **Be excited** about student’s projects.
- **Praise in public, reprimand in private.**

3. *Motivation Starts with the Teacher.*

- **Be enthusiastic** and excited about the subjects that you teach. Nobody likes a boring lecture. Your enthusiasm will eventually rub off on students once they get to know you.
- Some Students are Difficult to Motivate. Some students might need an extra effort by you to show them why or how the particular subject relates to them.
- Some students might never motivate, in extreme cases talk with the student and guidance councilor to find out if he or she really wants to be in your class. Realize that **you may not motivate every student.**