

WORKLOAD DISTRIBUTION AMONG AGRICULTURE TEACHERS

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Abstract

Teachers distribute their time in many ways. The study sought to determine how agriculture teachers distribute their time among 11 selected teacher activities (i.e., preparation for instruction; classroom/laboratory teaching; laboratory preparation and/or maintenance; grading/scoring students' work; administrative duties-program management; professional activities; Supervised Agricultural Experience observations and recording; local FFA activities; non-local FFA activities; Career Development Events preparation; and adult education) over a 15-week period. Additionally, comparisons were made for three teacher types (i.e., student-teachers, first-year teachers, and experience teachers). An additional time category (observation) was observed for student teachers. It was concluded that of the 11 selected areas, all teachers spend the majority of their time planning and providing classroom and laboratory instruction. The least amount of time was spent on adult education. Further, it was concluded that first-year teacher and student teachers display similar use of time in the 11 selected areas over the 15-week period. Recommendations cited include the need for personal development efforts in time-management and a need to better reflect on priorities for distributing time.

Introduction/Theoretical Base

It may seem like there aren't enough hours in the week to get everything done. On a daily basis, teachers are confronted with a multitude of tasks, roles, and responsibilities. Heck and Williams (1984), for example, outlined the complex roles of teachers. Among others, they suggest teachers fulfill the role of facilitator of learning, understanding of the learner, program developer, partner with parents, decision maker, professional leader, and the role of administrator when planning, organizing, scheduling, and reporting and evaluating student outcomes. While agriculture teachers share these roles, further responsibilities are outlined in the Local Program Success (LPS) initiative (National FFA Organization, 2005). Developed as the result of a joint taskforce and work group of teachers, agriculture and education leaders, LPS defined seven key teacher roles that define a successful local agricultural education program. These teacher roles include strong classroom and laboratory

instruction, Supervised Agricultural Experience programs (SAE) and an active FFA chapter. Four additional roles complete the seven key teacher roles and include fostering strong community and school partnerships, program planning, program marketing and professional and program growth. As such, agriculture teachers are faced with the challenge of meeting both the traditional teacher roles as well as the roles specific to agricultural education programs.

With the numerous roles and challenges agriculture teachers face, it is a little wonder why job satisfaction among agriculture teachers continues to be of interest. Frederick Herzberg developed the motivation-hygiene theory to explain employee job satisfaction and dissatisfaction. He called the satisfiers motivators and the dissatisfiers hygiene factors or maintenance factors in the sense that they are necessary to avoid dissatisfaction but that by themselves do not provide satisfaction (Porter, Bigley, & Steers, 2003). Motivators include achievement, recognition, work itself,

responsibility, advancement and personal growth. Maintenance factors include status, security, interpersonal relations, personal life, salary, work conditions, job policy and administration and supervision. As such, Herzberg's theory becomes the conceptual framework for the study focusing specifically on work conditions as a maintenance factor.

Several researchers (Cano & Miller, 1992; Castillo & Cano, 1999; Grady & Burnett, 1985; Walker, Garton, & Kitchel, 2004) have investigated job satisfaction among agriculture teachers. In 1985, Grady and Burnett found agriculture teachers were moderately satisfied with their jobs. However, teacher satisfaction was higher with intrinsic job factors (e.g. personal goals) and lower with extrinsic job factors (e.g., salary). Cano and Miller investigated satisfaction and dissatisfaction factors for agriculture teachers. They found that interpersonal relations, job policy and administration, salary, supervision, and working conditions were considered to be dissatisfiers among agriculture teachers. However, Cano and Miller, as did Castillo and Cano found participants in their studies were generally satisfied with their jobs of teaching agriculture. Similarly, in a recent study of first-year teachers, Walker et al. found secondary agriculture teachers were generally satisfied with their first year teaching experience.

Other important factors contributing to job satisfaction, as identified by Sauter, Hurrell, Murphy, and Levi (1998), included person-environment fit, workload, hours of work, environmental design, ergonomic factors, autonomy and control, work pacing, and electronic work monitoring. While each factor potentially affects agriculture teachers, workload and hours of work are frequently discussed issues in teaching agriculture education given the multiple tasks, functions, assignments, and responsibilities faced each day. By their very nature, workload and hours of work can be described as Herzberg's maintenance factors.

Due to the complex roles and program responsibilities, a generally accepted notion is that agriculture teachers have greater workloads and work longer hours than

typical secondary education teachers. According to Frankenhaeuser (1998), the term, "workload" comprises the challenges individuals face by the different work demands. The appraisal of workload involves weighing the intensity of the work demands in completing the tasks and roles against one's own mental coping abilities. Related, Monk (1998) noted that the duration of the hours and pattern an individual works are important aspects of his or her experience of the work condition.

Little systematic investigative efforts have focused on agriculture teacher workload and hours of work. Dated references indicated that work conditions such as workload and the number of hours required in teaching agriculture education contributed to teachers leaving the profession. Lockwood (1976) and Goode and Stewart (1981) documented the use of time of agriculture teachers and have cited the demands of time as a significant concern of the agriculture education profession. In addition, Moore and Camp (1979) found individuals who left teaching reported long hours to be the primary reason behind their exit from the agriculture education profession. Most recently, research has focused on time issues of first-year teachers; in particular, time management. Warnick, Thompson, and Tarpley (2006) found 51 percent of first-year teachers had a "positive" experience in relation to personal time management. However, the findings also indicate that roughly half of first-year teachers had a negative experience in regards to time management. Myers, Dyer, and Washburn (2005) found over 80 percent of the beginning teachers they studied agreed that time management was a problem facing beginning agriculture teachers. Not surprisingly, Roberts and Dyer (2004) found that a majority of traditionally and alternatively certified teachers indicated a high level of need for in-service in the area of time management.

Student teachers have also been the focus of research regarding their perceived job satisfaction and time. Rocca and Washburn (2006) found student teachers had high intentions of pursuing a career in agriculture teaching and had a high level of agreement with positive statements

regarding the teaching profession. The only items not perceived to be positive by student teachers were in salary and time for recreation and hobbies. In addition, Torres and Ulmer (2007) investigated the time distribution of student teachers and found they spent the most amount of their time (34%) on teaching-related activities, followed by similar amounts of time spent planning (26%) and teaching (25%).

Research regarding the time distribution of experienced teachers appears to be noticeably absent from the literature. Specific research comparing the time distribution of student teachers, first-year teachers and experience teachers also appears to be lacking. Wheeler and Knobloch (2006) concluded, "as recruitment and retention of qualified agricultural education teachers becomes more difficult, the importance of identifying variables that improve teacher motivation and commitment is growing" (p. 597). Questions remain as to how agriculture teachers are spending or distributing their workload in terms of time. Additionally, are student teachers and first-year teachers distributing their time in a manner that is similar to experienced teachers?

Purpose and Research Objectives

The purpose of the study was to describe and compare the time distribution of student teachers, first-year teachers and experienced teachers in selected teacher roles over a 15-week period. The specific research objectives included the following:

1. Describe the demographic characteristics of student teachers, first-year teachers, and experienced teachers.
2. Describe the time distribution of student teachers, first-year teachers, and experienced teachers in selected teacher roles.
3. Compare the time distribution among selected teacher roles by weeks of student teachers, first-year teachers, and experienced teachers.

Methods and Procedures

This research was descriptive in nature. Data were collected to describe the distribution of time for student teachers, first-year teachers, and experienced teachers. For this research, all 2006 student teachers ($N = 13$) in agricultural education were selected from the University of Missouri - Columbia. Additionally, agricultural education alumni who were in their first-year of teaching ($N = 11$) and 11 experienced teachers were purposefully selected. Experienced teachers were identified as those with more than three years teaching experience who had previously supervised a student teacher but were not a current cooperating teacher. Data were collected during the spring semester (January–April) while pre-service teachers were participating in a 15-week student teaching internship. To allow for comparison, data collected from first-year teachers and experienced teachers was timed to match pre-service teachers' student teaching internship to accurately reflect typical spring workload tasks, functions, assignments, and responsibilities.

Descriptive document analysis was used to obtain information pertaining to the research objectives. Scott (1990) suggested that written documents may be classified in terms of their authorship and access. Archived student teacher data files served as existing written records of the characteristics of interest. In terms of access to these documents, Scott suggested that documents of this nature are considered to be "closed", meaning the access is restricted to a limited group of people. Specifically, student journal submissions were analyzed by the researchers for self-reported content. In addition to reflective weekly journal entries, students recorded the number of hours spent in selected teacher roles: 1) observation (student teachers only); 2) preparation for instruction; 3) classroom/laboratory teaching; 4) laboratory preparation and/or maintenance; 5) grading/scoring students' work; 6) administrative duties-program management; 7) professional activities (meetings, in-service); 8) Supervised Agricultural Experience observations and recording; 9) FFA activities - local; 10) FFA

activities - area, district and/or state; 11) Career Development Events (CDE) preparation; and 12) adult education. For each week of the 15-week student teaching experience, the researchers reviewed each journal submission of all students and recorded the number of hours spent in each of the 12 selected teacher roles.

First-year teachers and experience teachers' data were collected electronically via email using a modified data collection form used by student teachers. Observation, as a time category, was eliminated from the data collection form. An email was sent to the participants requesting their participation. The email also contained the data collection instrument which identified the categories participants would use to record their time distribution. All participants were familiar with the data collection instrument prior to conducting this research. Participants were asked to indicate clock hours devoted to each of the categories. An electronic data collection form was sent to teachers weekly via email at the beginning of each week for a total data collection period of fifteen weeks. At the end of each week, participants returned their weekly time reports via email.

Data (number of hours) reported in the 12 selected teacher roles for each student teacher, and the 11 selected teacher roles for first-year teachers and experience teacher over the 15-week period were entered into SPSS version 11.5 for analysis. Data were summarized in two ways. Omnibus hour totals were calculated for each of the teacher roles of allocated time. From the omnibus totals, an average percentage of time for each category was calculated. The 15-week period was reduced by calculating three-week totals for each area of time distribution, creating five time intervals. The time intervals were used to identify changes and trends in average distribution of workload time. Because there is no assurance of general pre-service teacher and teacher representation, no attempt to generalize the research should be made.

Findings

Demographic characteristics of student teachers, first-year teachers, and experienced teachers were obtained to address research objective 1. Student teachers within the study were found to consist of five female and eight male students. Similarly, first-year teachers were nearly equally divided between females ($n = 5$) and males ($n = 4$). However, experienced teachers were predominately male, and of the 11 experienced teachers, two were females. In terms of teaching experience, the average number of years teaching for experienced teachers was less than twelve years, with a range between six to 19 years. The time distribution of student teachers, first-year teachers, and experienced teachers in selected teacher roles was research objective 2. For each of the 12 teacher roles: (observation; preparation for instruction; classroom/laboratory teaching; laboratory preparation and/or maintenance; grading/scoring students' work; administrative duties-program management; professional activities; SAE observations and recording; FFA activities - local; FFA activities - area, district and/or state; CDE preparation; and adult education) student teachers' time (expressed in hours) was totaled for all student teachers for the 15-week internship experience. The totaled hours were averaged for all student teachers to illustrate the distribution of time spent in each area (Figure 1).

During the 15-week period, student teachers spent the majority (61%) of the time on planning and instruction. Five percent of the time was spent on administrative-related (program management and professional activities), and the balance of time (34%) was spent on teaching-related activities (e.g., grading/scoring, SAE observations, FFA activities, CDE preparation and adult education). Of all the activities, the least amount of time spent during the 15-week period was in adult education. The average number of hours spent observing the cooperating teacher by student teachers was 66 hours.

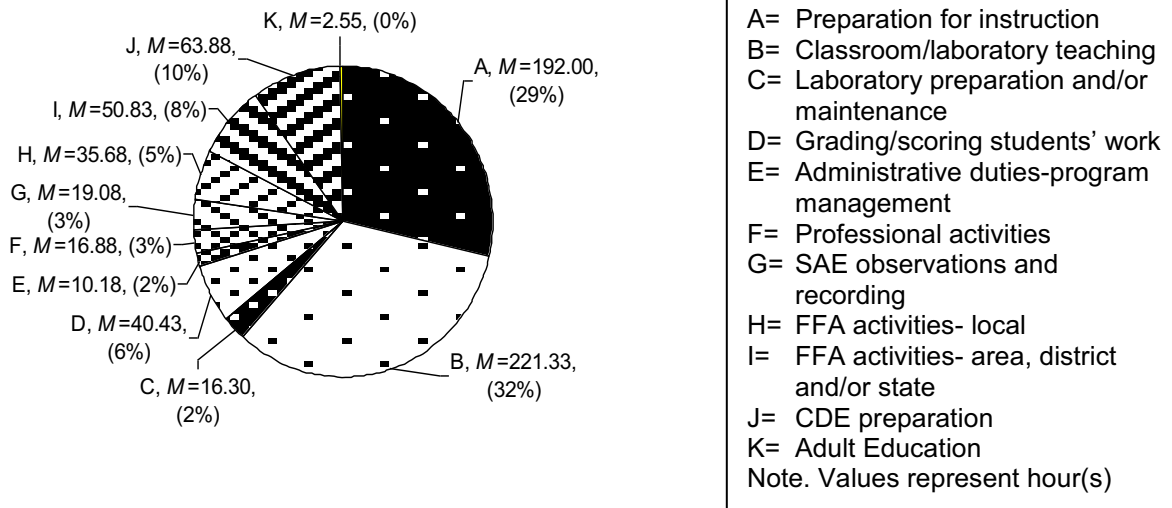


Figure 1. Student teachers' average percentage of hours allocated to activities while student teaching for 15 weeks ($n = 13$).

Similarly, the totaled hours for each time category were averaged for all first-year teachers (Figure 2) and experienced teachers (Figure 3) to illustrate the distribution of time spent in each area except observation. First-year teachers also spent a majority (62%) of their time on planning and instruction (e.g., classroom and laboratory instruction) during the 15-week period. Administrative and professional activities composed six percent of the total time, and teaching-related activities consumed 31 percent of first-year teachers' time. First-year teachers spent the least proportion of time (1%) on adult education (Figure 2).

During the same 15-week period, experienced teachers spent 47 percent of their time on planning and instruction, with the majority of that time teaching in the classroom and laboratory (Figure 3). Thirteen percent of the time was spent on administrative-related activities (program management & professional activities), and 40 percent was spent on teaching-related activities (e.g., laboratory preparation and/or maintenance, grading/scoring students' work, SAE observations and recording, FFA activities, and CDE preparation).

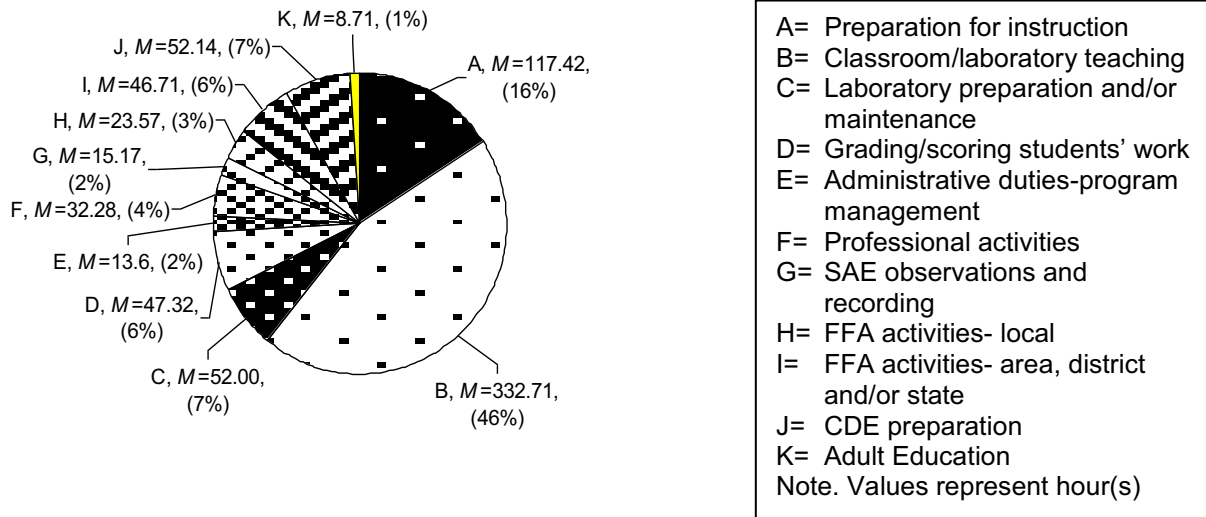


Figure 2. First-year teachers' average percentage of hours allocated to activities over a 15-week period (n = 11).

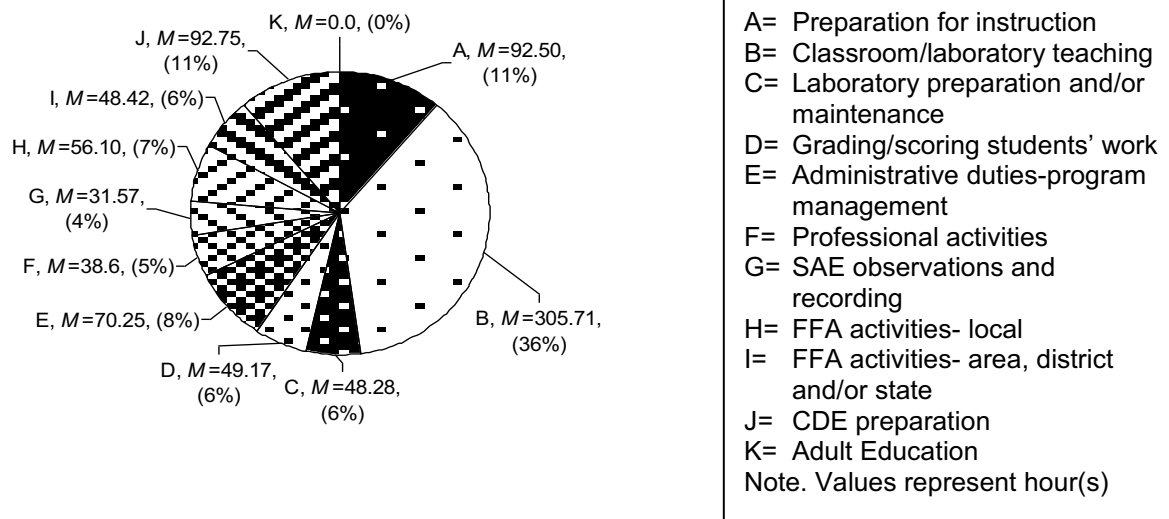


Figure 3. Experienced teachers' average percentage of hours allocated to activities over a 15-week period (n = 11).

Research objective 3 sought to compare the distribution of time by weeks of student teachers, first-year teachers, and experienced teachers in selected teacher roles. These findings are displayed in Tables 1 through 4. Time spent observing classroom instruction was unique to student teachers and not appropriately measured for first-year teachers and experienced teachers. However, it was found that student teachers observation

activities peaked during the first three-week interval and steadily declined through the fourth time interval with a slight increased in the fifth time interval. Table 1 displays the change in the average number of hours spent planning for instruction by student teachers, first-year teachers, and experienced teachers.

Student teachers, first-year teachers and experienced teachers display relatively the same trend on the average number of hours

planning (Table 1). Teachers spent the greatest amount of planning at the first time interval, and then gradually declined over the five time intervals; with the lowest recorded average planning time at the fifth time interval. The greatest disparity in time

spent planning occurred at the second time interval, with student teachers spending the greatest amount of time. Overall, student teachers consistently spent more time planning for instruction, followed by first-year teachers.

Table 1
Comparison of Observation and Planning Time Distribution Trends

Activity	Three-Week Interval									
	1 st		2 nd		3 rd		4 th		5 th	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Observation ^a										
Student Teachers	11.40	4.77	5.62	4.03	2.06	3.00	1.37	2.11	1.89	4.09
Planning										
Student Teachers	14.58	4.64	17.26	4.42	12.52	4.73	12.22	5.14	7.11	4.31
First-Year	8.27	2.67	8.00	2.93	7.67	2.76	6.84	2.83	6.39	3.09
Experienced	7.70	3.00	6.51	2.76	5.51	3.39	5.90	2.33	4.42	2.47

Note. Values represent hours(s)

^aMeasured for student teachers only

A comparison of the average amount of time spent teaching among student teachers, first-year teachers, and experienced teachers is displayed in Table 2. Overall, first-year teachers and experienced teachers spent more time teaching over the five time intervals. Student teachers consistently spent less time teaching over

the 15-week period. The greatest disparity in the average amount of time spent teaching among teachers occurred during the first time interval. Overall, first-year teachers consistently spent more time teaching over the 15-week period than did student teachers and experienced teachers.

Table 2
Comparison of Teaching Time Distribution Trends

Activity	Three-Week Interval									
	1 st		2 nd		3 rd		4 th		5 th	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Teaching										
Student Teachers	6.30	2.45	18.10	3.96	16.62	4.03	18.04	5.08	13.07	3.47
First-Year	22.54	3.82	24.86	4.34	22.32	3.02	20.89	4.67	19.98	4.96
Experienced	21.22	4.00	23.12	3.95	20.30	3.85	20.43	6.22	20.61	5.48

Note. Values represent hour (s)

The time distribution of teaching-related activities over a 15-week period is displayed in Table 3. Teaching-related activities included lab preparation, grading and scoring, making SAE observations, conducting FFA activities (at various

levels), CDE preparation, and adult education activities. It was found that as the 15-week period progressed, student teachers display a peak and valley trend in time distribution. First-year teachers displayed a gradual increase of time spent in lab

preparation with the greatest amount of time at the fifth time interval. Experienced teachers maintained a relatively even distribution of time in lab preparation over the 15-week period. Overall, first-year teachers spent relatively more hours in lab preparation than did student teachers and experienced teachers.

Teachers displayed a similar trend in the amount of time spent grading and scoring during the 15-week period (Table 3). While experienced teachers devoted more time to grading and scoring pupils' work during the first time interval than did student teachers and first-year teachers, the amount of time devoted became relatively more similar in subsequent time intervals with a peak in the amount of time during the second time interval for all teachers. With regard to SAE observations, teachers devoted relatively equal amounts of time during the five time intervals; however, experienced teachers consistently spent more time making SAE observations than did student teachers and first-year teachers. First-year teachers progressively declined in the average number of hours devoted to making SAE visits between the first and third time interval, then slightly increased during the last two time intervals. Experienced and

student teachers exhibited a peak in time spent on making SAE observation at the second time interval, and the first-year teachers continued with a decrease in time spent in this activity.

Similar time trends over the five time intervals are displayed among student teachers, first-year teachers, and experienced teachers in the area of local FFA activities (Table 3). Teachers peaked in the amount of time spent on local FFA activities during the third time interval. In general, experienced teachers consistently spent more time on local FFA activities over the 15-week period. With the exception of the third three-week time interval, first-year teachers spent the least amount of time on local FFA activities than did student teachers and experienced teachers. A different 15-week time trend is exhibited for all teachers for FFA activities beyond the local level (area, district, and/or state). Again, the trends are similar for student teachers, first-year teachers, and experienced teachers. Teachers spent the most amount of time during the fourth and fifth time intervals. During the first three time intervals, teachers spent approximately the same amount of time on non-local FFA activities.

Table 3
Comparison of Teaching-Related Time Distribution Trends

Activity	Three-Week Interval									
	1 st		2 nd		3 rd		4 th		5 th	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Lab Preparation										
Student Teachers	0.94	0.83	1.49	1.51	1.33	1.47	1.03	1.19	0.80	1.02
First-Year	2.72	1.76	3.21	1.94	3.64	1.85	4.03	2.44	4.25	3.10
Experienced	2.24	1.62	3.62	1.85	2.20	1.97	3.34	3.48	3.72	3.68
Grading										
Student Teachers	2.01	1.36	3.31	1.28	2.79	1.47	3.15	2.33	1.83	1.60
First-Year	3.06	1.33	3.81	2.30	2.83	2.04	2.46	1.35	2.67	1.57
Experienced	3.77	2.08	4.27	1.59	2.61	1.13	3.03	2.01	2.56	0.96
SAE Observations										
Student Teachers	1.62	1.45	2.60	3.50	0.89	1.21	0.40	0.90	0.59	0.68
First-Year	1.95	2.75	1.11	1.09	0.54	0.65	0.61	0.82	0.85	1.26
Experienced	2.60	2.29	3.87	3.18	2.19	2.10	1.47	2.16	1.48	1.22
FFA - Local										
Student Teachers	1.26	1.99	1.83	1.83	4.24	2.23	1.85	1.97	1.29	1.69
First-Year	0.75	0.49	1.06	1.27	5.27	2.97	0.70	0.96	0.71	1.34
Experienced	2.80	3.23	2.30	3.47	8.15	3.83	3.11	5.15	1.69	2.40
FFA – Area, District, and/or State										
Student Teachers	2.39	1.92	1.96	1.70	1.54	1.71	5.72	4.95	6.08	3.08
First-Year	1.67	1.47	1.33	1.52	1.81	2.16	3.02	2.34	7.15	3.45
Experienced	2.35	2.40	1.48	1.84	1.10	1.95	5.08	3.67	6.17	1.86
CDE Preparation										
Student Teachers	0.09	0.24	0.42	1.12	4.06	3.77	9.40	6.70	6.80	5.69
First-Year	0.38	0.70	2.18	1.88	3.40	3.15	8.26	5.88	4.29	2.57
Experienced	2.15	2.66	3.29	3.72	6.17	6.28	12.74	5.91	11.25	4.93
Adult Education										
Student Teachers	0.22	0.61	0.05	0.14	0.39	0.81	0.13	0.46	0.00	0.00
First-Year	0.60	1.26	0.61	1.09	0.19	0.38	0.70	1.42	0.25	0.46
Experienced	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note. Values represent hour(s)

The amount of time devoted to teaching and teaching-related activities (e.g., lab preparation, grading, SAE observations) peaked at the second time interval for all teachers, then progressively decreased in subsequent time intervals (Table 3). The amount of time spent on preparing students for Career Development Events was minimal at the beginning of the 15-week period then progressively increased for all teachers, peaking during the fourth time interval, then dropping during the fifth time interval. Overall, experienced teachers consistently spent more time preparing students for Career Development Events than did student teachers and first-year teachers.

While findings reported earlier indicate that the least amount of teachers' time is spent on adult education, what little time is spent is uniquely different among teacher groups during the 15-week period. Whereas experienced teachers spent no time on adult education, first-year teachers consistently spent more time on adult education than did

student teachers over the 15-week period, with the exception occurring during the third time interval.

The time teachers devoted to administrative-related activities include program management and professional activities (e.g., meetings and in-service events) (Table 4). The amount of time spent over the 15-week period did not vary drastically. However, experienced teachers spent the most amount of time on administrative duties. When compared with the other teachers, student teachers consistently spent the least amount of time on administrative duties. Teachers spent the most amount of time on professional activities early in the 15-week period of time and time spent gradually declined, with the least amount of time spent during the end of the 15-week period. Student teachers consistently spent the least amount of time on professional activities over the 15-week period, and experienced teachers spent the most amount of time at each of the five time intervals.

Table 4

Change in Distribution of Time Administrative-Related Activities

Activity	Three-Week Interval									
	1 st		2 nd		3 rd		4 th		5 th	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Administrative Duties										
Student Teachers	0.47	0.54	0.38	0.94	0.31	0.72	0.08	0.28	1.74	3.28
First-Year	1.82	2.40	1.19	1.05	0.58	0.72	0.43	0.69	0.84	0.97
Experienced	3.39	1.52	4.65	1.82	4.15	2.83	4.29	2.30	4.74	3.20
Professional Activities										
Student Teachers	2.40	1.52	0.77	0.90	1.64	1.81	0.31	0.58	0.44	0.92
First-Year	3.47	1.22	1.56	2.13	2.19	2.07	1.85	1.99	0.89	0.71
Experienced	4.56	1.85	2.33	2.41	2.16	2.74	1.83	1.62	1.46	1.25

Note. Values represent hour(s)

Conclusions, Implications, and Recommendations

The results indicate that teachers in this study do not distribute their time equally among workload tasks, roles, and responsibilities, nor do teachers distribute their time on tasks, roles, and responsibilities in the same manner over time. However, student teachers and first-year teachers are similar in how they distribute their time in 11 selected teacher roles. Student teachers, first-year teachers, and experienced teachers spent the largest proportion of time in the combined areas of planning and instruction. These two areas consumed over half of the teachers' time. This implies that agriculture teachers value the need to provide adequate planning and instruction to students. It is recommended that teacher educators continue to focus on instructional planning and delivery as primary developmental efforts among student teachers. Additionally, teacher induction programs should refine and streamline these skill areas to eventually allow them to focus on other program administrative efforts such as program planning and marketing, and establishing partnerships in the school and community.

Experienced teachers devote proportionally more time on teaching-related activities (e.g., grading, FFA activities, and CDE preparation) and professional activities (e.g., program management, meetings, and in-service) than do student teachers and first-year teachers. As a single area, activities pertaining to adult education are the smallest proportion of time used by teachers. In the general categories of planning, instruction, teaching-related, and administrative activities, these conclusions are consistent with the findings of Torres and Ulmer (2007). This conclusion implies that a successful secondary agricultural education program is more than just planning and teaching. Experienced teachers recognize the need to devote a large proportion of their time in related workload tasks, roles, and responsibilities that make a program successful. This is consistent with the LPS initiative that encourages teachers to focus on the total program including program planning and marketing. Although

planning and classroom and laboratory instruction are paramount among all teacher workload tasks, roles, and responsibilities, it is recommended that first-year teachers and student teachers strive to balance their time among teaching-related activities and administrative duties.

How teachers in this study distribute their efforts over time in selected areas varies. While differences exist among teacher types (student teacher and first-year teachers and experienced teachers), general time-trends over a 15-week period are relatively similar. The amount of time spent by teachers on activities in planning, instruction, lab preparation, grading and scoring, and administrative duties are relatively constant over the 15-week period. However, the number of hours varied by teacher type. This implies that teachers recognize these workload tasks, roles, and responsibilities are ongoing and have no definable "peak or valley season." While seasonal activities come and go, classroom, laboratory, and administrative duties define primary teacher roles. Teacher educators should continue to promote these activities to student teachers as basic skills and efforts to which teachers devote time. Additionally, teachers need to distribute their time more consistently over the year when making SAE observations rather than allowing this task to be a seasonal effort.

Teachers' efforts vary over time in non-local FFA activities and CDE preparation, each consuming large proportions of time during the months of March and April. With regard to SAE observations, teachers devote the highest number of hours during the months of January and February. Contrary to those tasks, roles, and responsibilities that require constant effort over time, non-local FFA activities and CDE preparation are "seasonal" activities and do not take time away from other teacher activities. This might imply that while seasonal efforts require an increase in the number of hours, administrative duties, planning, and instruction do not diminish. Speculation might suggest that it is within these time periods that teacher stress is at its highest. If so, in-service activities should be offered to allow teachers to approach stress in a healthy manner. Workshops and/or

published materials on stress/time management should be promoted and made available for teacher use. This recommendation is complemented by Myers et al. (2005), and Roberts and Dyer (2004) who found that agriculture teachers indicated a need for in-service in the area of time management.

As a result of this research, several questions remain. Recommendations for future research include the need to further define the roles of the agriculture teacher. For example, how much time is devoted to working/communicating with parents? How much time is devoted to addressing student discipline issues? How much time is devoted to program planning and marketing? Teachers invest a large amount of time planning and delivering programmatic instruction to secondary agricultural education students. The excessive number of hours directly affects the teachers' work conditions. According to Herzberg's theory on job satisfaction, adverse effects on work conditions contribute to job dissatisfaction. Research on agriculture teachers' work condition, as a Herzberg maintenance factor, is sorely lacking in the literature. Research should investigate teacher stress as a result of the workloads involved when teaching agricultural education. For example, what is the stress level during peak usage of time? How do teachers cope with stress? How does teacher-stress impact their personal life? Is teacher retention attributed to stress? These questions, as well as other work condition questions, must be addressed as recruitment and retention efforts of agricultural education professionals continue.

References

- Cano, J., & Miller, G. (1992). A gender analysis of job satisfaction, job satisfier factors, and job dissatisfier factors of agriculture education teachers. *Journal of Agricultural Education*, 33(3), 40-46.
- Castillo, J. X., & Cano, J. (1999). A comparative analysis of Ohio agriculture teachers' level of job satisfaction. *Journal of Agricultural Education*, 40(4), 67-79.
- Frankenhaeuser, M. (1998). Psychosocial and organizational factors. In J. M. Stellman (Ed.) *Encyclopedia of Occupational Health and Safety* (4th ed.). 2, .34.2-34.6, Retrieved June 1 2005 from: <http://www.ilo.org/encyclopaedia/>
- Goode, J. K., & Stewart, B. R. (1981). Priorities of Missouri teachers of vocational agriculture regarding time, civic, church, family, and self-related activities. *Journal of the American Association of Teacher Educators in Agriculture*, 22(2), 36-41.
- Grady, T. L., & Burnett, M. F. (1985). The relationship between job satisfaction and performance of vocational agriculture teachers. *Journal of Vocational Education Research*, 10(3), 53-69.
- Heck, S., & Williams, R. C. (1984). *The complex roles of the teacher*. New York & London: Teachers College Press.
- Lockwood, L. (1976). What are your priorities in your job? *The Agriculture Education Magazine*, 48, 248-249.
- Moore, C. E., & Camp, W. C., (1979). Why vocational agriculture teachers leave the profession: A comparison of perceptions. *Journal of the American Association of Teacher Educators in Agriculture*, 20(3), 11-18.
- Monk, T. H. (1998). Psychosocial and organizational factors. In J. M. Stellman (Ed.) *Encyclopedia of Occupational Health and Safety* (4th ed.). 2, .34.2-34.6, Retrieved June 1 2005 from: <http://www.ilo.org/encyclopaedia/>
- Myers, B., Dyer, J., & Washburn, S. (2005). Problems facing beginning agriculture teachers. *Journal of Agricultural Education*, 46(3), 47-55.
- National FFA Organization. (2005). *FFA New Professional Kit* [CD(vG4.2)]. National FFA Organization, Indianapolis, IN.
- Porter, L. W., Bigley, G. A., & Steers, R. M. (2003). *Motivation and work behavior*, 7th ed. McGraw-Hill/Irwin, Boston.

Rocca, S., & Washburn, S. (2006). Preservice agriculture teachers' perceptions of career barriers and support. *Proceedings of the American Association for Agricultural Education Conference*, May 17-19, Charlotte, N.C., pp. 170-185.

Roberts, T., & Dyer, J. (2004). Inservice needs of traditionally certified agriculture teachers. *Journal of Agricultural Education*, 54(4), 57-69.

Torres, R. M., & Ulmer J. D. (2007). An investigation of time distribution of pre-service teachers while interning, *Journal of Agricultural Education*, 48(2), 1-12.

Sauter, S. L., Hurrell, J. J., Jr., Murphy, L. R., & Levi, L. (Eds.). (1998). Psychosocial and organizational factors. In J. M. Stellman (Ed.) *Encyclopedia of Occupational Health and Safety* (4th ed.) 2, 34.2-34.6, Retrieved June 1 2005 from: <http://www.ilo.org/encyclopaedia/>

Scott, J. (1990). *A matter of record: Documentary sources in social science research*. Cambridge, UK: Polity.

Walker, W., Garton, B., & Kitchel, T. (2004). Job satisfaction and retention of secondary agriculture teachers. *Journal of Agricultural Education*, 45(2) 28-38.

Warnick, B. K., Thompson, G. S., & Tarpley, R. S. (2006). Experiences of the first year of teaching secondary agricultural education: A report of a national study. *Proceedings of the American Association for Agricultural Education Conference*, May 17- 19, (pp. 601-613). Charlotte, N.C.

Wheeler, J., & Knobloch, N.A. (2006). Relationship of teachers and program variables to beginning agriculture teachers' sense of efficacy. *Proceedings of the American Association for Agricultural Education Conference*, May 17-19, Charlotte, N.C., pp. 590-600.

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