

IDENTIFYING CONTENT FOR AN OPEN COURSEWARE PRE-SERVICE AGRICULTURAL EDUCATION PROGRAM PLANNING COURSE

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Abstract

This study focused on the development of a pre-service agricultural education “Program Planning” course that could be utilized nationally for preparing high school agricultural science and business teachers. The researchers created a course that would meet the needs of agricultural education students, teachers, and faculty across the United States in the form of open courseware. Using the Tyler Rationale, the subjects of the study were teachers (learners), teacher educators (subject specialists), and 22 university program planning course syllabi collected from agricultural education teacher preparation programs. A collective list of content items was derived from the course syllabi. Outstanding high school agricultural education teachers and university teacher educators were asked to rate the importance of each item. Only those items rated as important by both groups were incorporated into a new curriculum framework for the course. Overall, 59 content items were considered important by both groups and recommended for inclusion in the program planning course. The 59 items were grouped into twelve categories. The categories included Introduction to Program Planning, Program Goals, Program Evaluation, Program Needs Assessment, Professionalism, Curriculum Planning, Program Budgeting/Funding, Advisory Committees, Recruiting and Marketing, Summer Programs, Legal and Safety Issues, and Total Agricultural Education Program.

Introduction/Theoretical Framework

The purpose of this study was to develop a “Program Planning” course for agricultural teacher education professionals to be available nationwide through open courseware. This study examined the development of a course listed as a “Program Planning” course through a process involving stakeholders and constituents who identified the specific content for the course. Because content of particular courses varies among institutions of higher education, it was necessary to define the meaning of a course on program planning for the participants in the study. For the purposes of the current study, a program planning course was explained to the survey participants as:

A Program Planning course prepares students to plan and conduct a total agricultural education program at the high school level. Most colleges and universities teach additional courses involving membership in the National FFA Organization (FFA) and the coordination of Supervised Agricultural Experiences (SAE) with such courses dealing specifically with how to conduct and maintain these corresponding parts of the program. In addition, most universities also offer a separate methods course to teach students how to plan and deliver instruction as well as maintain student behavior.

The theoretical basis for this study is grounded in the Tyler Rationale. Three

seminal theorists, Tyler (1949), Bode (1931) and Taba (1945) identified the same key underpinnings to determining curriculum content. The Tyler Rationale describes the key sources as 1) the learners themselves, 2) studies of contemporary life, and 3) subject specialists (Tanner & Tanner, 1995). Using the Tyler Rationale, the subjects of the study were teachers (learners) and teacher educators (subject specialists) and the content items used in the survey were derived from an examination of Program Planning course syllabi collected from agricultural teacher education programs (contemporary studies).

Lynch (1996) reported a widespread national decline in the teacher education infrastructure for career and technical education. He found that major problems were beginning to surface in the availability of teacher education programs in the field and suggested that major changes were needed in the way teachers are prepared in career and technical education. Camp, Broyles, and Skelton (2002) reported a similar decline in the number of teacher education programs and faculty in agricultural teacher education in the United States. Of particular interest to this study, the data illustrated a loss of agricultural teacher education programs in several states, most notably in the Northeast. Given the loss of existing teacher education infrastructure for agricultural education, it could be argued that a need exists for alternative delivery mechanisms for professional preparation of agriculture teachers.

According to Findley (1992) and the American Association for Agricultural Education's National Standards for Teacher Education in Agriculture (2001), program planning in agricultural education is an essential part of the professional instruction that should be provided in a quality preservice agricultural education program. In a qualitative examination of the content of selected preservice agricultural teacher education programs, McLean and Camp (2000) found little agreement across institutions regarding the courses offered or the content included in those courses. Although not all of the institutions included in the study offered program planning

courses, the researchers identified twelve common topics that would logically fit into a program planning course using the definition outlined for the current study.

Heath-Camp, Stewart, and Camp (2000a) reported the results of a study intended to identify and prioritize content in the form of competencies needed by beginning teachers in career and technical education. They used those competencies as the basis for a set of web-based, multimedia, distance-delivered courses intended to help address the need for an alternative delivery mechanism for preparing career and technical teachers with major portions of the course sequence being in the areas of curriculum and program planning. The authors reported the courses to be well received by the students and indicated that the courses were being used successfully in preparing teachers for their professional responsibilities (Heath-Camp, Stewart, & Camp, 2000b).

Researchers in agricultural education have identified several institutional barriers to offering on-line distance education. The development of distance education courses is costly and few instructors have had access to training and support services needed to create electronic course materials (Geoghegan, 1994; Ko & Rossen, 2001; Murphy & Terry, 1998a). Faculty time constraints associated with creating and offering distance education also create a resistance from faculty in institutions that could offer distance education courses (Miller & Miller, 2000; Murphy & Terry, 1998b; Zirkle, 2002).

Open courseware is a relatively new term coined to describe electronic course materials and educational software that is open or accessible to users on-line, by e-mail, or on disks. Open courseware is free and available for use by others while the contents are copyrighted and owned by the creator. The purpose for the accessibility of these courses is that if they are reviewed and used by multiple experts the curriculum could be assessed and improved on an ongoing basis. Open courseware typically includes a syllabus and 13-15 weekly lessons including content to be learned in a Microsoft Word[®] document or Microsoft PowerPoint[®] presentation, readings, and in-

and out-of-class exercises. Teacher education programs can utilize open courseware to teach entire distance education courses or as a resource for on- or off-campus courses.

The use of open courseware in preservice agricultural education could eliminate the barriers facing faculty of insufficient time to design courses and the lack of expertise in web page development. According to Potter (2003), open courseware could make high quality, research-based instructional materials readily available to teacher educators and could offer a partial solution to these problems. Open courseware is valuable to programs that have small numbers of faculty with limited time to develop new distance education curriculum and could expand course offerings at institutions facing budgetary constraints. The open course approach could provide free and accessible high quality course materials to all universities to improve the quality of teacher preparation in program planning and, hence, the overall quality of high school agricultural education programs.

Purpose and Objective

The purpose of this study was to develop a "Program Planning" course for use in pre-service agricultural teacher education programs as open courseware. The following research questions guided the study:

1. What content should be taught in an agricultural education "Program Planning" course for use as open courseware as perceived by high school agriculture teachers?
2. What content should be taught in an agricultural education "Program Planning" course for use as open courseware as perceived by agricultural education teacher educators?

Methods/Procedures

This descriptive study consisted of both qualitative content analysis and quantitative survey research. The population of this

study included all pre-service agricultural education teacher preparation programs in the United States and high school agricultural education teachers from each of the three regions of the American Association for Agricultural Educators identified by Agricultural Education pre-service faculty and Agricultural Education state staff as having outstanding agricultural education programs.

Eighty-seven teacher preparation programs were identified from the American Association of Agricultural Education directory and contacted to determine if their program taught an agricultural education program planning course. In the case where such a course was taught a request was made for a copy of their course syllabus. Two additional follow-ups were provided over a two-month period for institutions that had not already responded. At the end of the two-month period an attempt was made to contact non-respondents by telephone. Of the 87 programs contacted, 77 responded for a total response rate of 89%. Of the 77 programs that responded, 22 indicated that they taught a program planning course. Each of the 22 programs supplied the researchers with a copy of their program planning course syllabus.

Some of the syllabi listed competencies while others listed lesson titles. Many were very descriptive while others provided little evidence of the actual content. Still other syllabi provided topic lists. The content from all of the 22 syllabi were analyzed by listing all content items in the syllabi by topic format. A panel of experts representing agricultural education teacher preparation professionals then categorized the 153 content items from the 22 syllabi into 19 topic categories for organizational purposes only. The items were then assembled into an on-line questionnaire which was reviewed for face, content, and construct validity and readability. The survey used a 4-point Likert-type scale with "1" representing not important and "4" representing very important. Individual items and the format of the instrument were revised based on suggestions provided by the reviewers. The instrument was then administered to twenty pilot participants and again to the same group two weeks later resulting in a

coefficient of stability of $r = .83$. The perception questions were considered stable and were not revised.

Eighty-seven agricultural education programs previously identified as teaching preservice agricultural education students were surveyed via an e-mail request and linked to the on-line survey. Non-respondents were contacted twice more over a four week period. Sixty-two of the 87 preservice agricultural education programs responded to yield a 71% individual response rate. Eight of the 62 responses were not useable due to incomplete electronic data sets. To control for non-response error, ten non-respondents were randomly contacted by telephone and asked to respond to a random sample of ten items. No significant differences were found between the respondents and non-respondents on the random sample of items.

Agricultural education teacher preparation faculty and Agricultural Education state staff from Indiana, North Carolina, Pennsylvania, Utah, and Virginia were asked to identify a purposive sample of outstanding high school agricultural education teachers in their states. Borg, Gall, and Gall (1993) define a purposive sample as one in which the "researchers select a case, or cases, from which they can learn the most" (p. 101). Sixty-four teachers with current e-mail addresses were provided. The instrument was sent to the 64 high school teachers via an e-mail request and linked to the on-line survey. Non-respondents were contacted twice more over a four week period. Thirty-six of the 64 teachers responded to yield a 56% response rate. Early and late responders were compared based on Miller and Smith (1983) and there were no significant differences found between the two response groups controlling for non-response error. Ten non-respondents were randomly contacted by telephone and asked to complete a random sample of ten items. There were no significant differences found between the responders and non-responders controlling for non-response error. Therefore, nonresponse error was not considered a threat to the external validity of this study.

Both high school teachers and university faculty were asked to determine if each content item from the 22 collected syllabi was appropriate to teach in a program planning course or in another course. Participants were given a working definition of a program planning course as was stated in the introduction section of this paper. Eighty-four of the 153 content items were selected by a simple majority by both groups of respondents as appropriate to be taught in a program planning course. Data related to these 84 content items were then analyzed using descriptive statistics.

Findings

The study sought to answer the following research question: What content should be taught in an agricultural education Program Planning course for use as open courseware as perceived by high school agriculture teachers and agricultural education teacher educators? The survey used a 4-point Likert-type scale. The decision-point for inclusion of the content item in the course was defined *a-priori* as a mean rating of 3.0 or higher by both teachers and teacher educators.

Table 1 illustrates the findings for both groups. Letters were assigned for clarity of results. When both groups agreed that a content item should be included in a program planning course the letter "B" was inserted. If only the teachers agreed with the content item the letter "T" was used, and if only the university teacher educators indicated a content item was necessary the letter "U" was inserted. If neither teachers nor teacher educators felt the content item was important for inclusion the letter "N" was used.

An examination of data reveals that both groups (B) agreed to include 59 of the 84 content items and that neither group (N) wanted to include ten of the content items. Furthermore, nine content items were rated as "important" by teachers (T) but not by teacher educators (U). The remaining five content items were rated as "important" by university teacher educators (U) but not by teachers.

Table 1

Agricultural Education Teacher and Teacher Educator Responses to Competencies Proposed for an Agricultural Education Preservice Program Planning Course

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
Introduction to Program Planning					
1. The components of a total program	B	3.50	.56	3.69	.58
2. Enhancing the local program	B	3.39	.69	3.17	.72
3. Why, who, & what to include in your program	B	3.61	.49	3.60	.53
4. Rationale for planning	B	3.06	.75	3.31	.80
5. Context for planning	U	2.86	.68	3.00	.78
6. Program planning models	N	2.89	.92	2.93	.80
7. Goals for a quality program	B	3.44	.65	3.52	.64
8. Standards for quality Agricultural Ed program	B	3.50	.74	3.33	.82
9. Steps to planning effective programs	B	3.39	.60	3.39	.63
10. Program management	B	3.19	.71	3.21	.74
11. Teacher Responsibilities	B	3.50	.65	3.41	.79
12. Program planning materials	B	3.33	.72	3.17	.76
Levels of an Agricultural Ed Program					
13. Components of a High School Agricultural Program	B	3.42	.69	3.59	.60
14. Components of a Middle School Agricultural Program	N	2.77	.91	2.50	.86
15. Adult and Community Education	N	2.94	.83	2.65	.87
16. Nontraditional programs	N	2.94	.75	2.59	.81

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
Program Goals					
17. Developing a philosophy of Agricultural Ed	B	3.19	.75	3.50	.72
18. Establishing program goals	B	3.61	.49	3.61	.56
19. Mission statements	U	2.69	1.01	3.11	.88
20. Implementing program goals	B	3.42	.65	3.41	.60
21. Short range objectives of an Agricultural Ed program	B	3.11	.67	3.04	.73
22. Long range objectives of an Agricultural Ed program	B	3.39	.64	3.28	.68
23. Interpret school policies regarding program	B	3.11	.75	3.00	.78
State and National Leadership					
24. Agricultural education standards	B	3.39	.64	3.17	.75
25. High school graduation requirements	N	2.97	.91	2.89	.90
26. Changes in the purpose of Agricultural Ed	U	2.92	.87	3.04	.85
27. Reinventing Ag Ed for the Year 2020	N	2.97	.81	2.66	.90
Program Evaluation					
28. Program improvements	B	3.44	.56	3.15	.76
29. Evaluating Ag Ed impacts on student academic learning	B	3.22	.72	3.31	.80
30. Evaluating Ag Ed programs	B	3.36	.72	3.44	.66
31. Evaluating program impacts	B	3.17	.74	3.31	.80

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
32. Reporting accomplishments	B	3.25	.73	3.35	.78
Program Needs Assessment					
33. Community survey	B	3.17	.77	3.20	.70
34. Sources of community data	U	2.89	.80	3.00	.73
35. Community considerations	B	3.20	.75	3.11	.74
36. Developing a community portfolio	N	2.72	.88	2.44	.86
37. Program partnerships	B	3.37	.55	3.11	.78
38. Identifying industry needs	B	3.36	.59	3.09	.83
39. Developing school needs assessments	T	3.11	.75	2.96	.80
40. Writing descriptions of school and community	N	2.53	.81	2.41	.94
41. Key issues related to parent and community relations	B	3.19	.71	3.06	.82
42. Selling your program to the community	B	3.78	.42	3.30	.69
43. Identifying facilities of Ag Science and business programs	B	3.36	.68	3.11	.77
Curriculum Planning					
44. Identifying curriculum	B	3.50	.70	3.63	.56
45. Course selection	B	3.42	.69	3.56	.63
46. Content sequence	B	3.09	.78	3.43	.63
47. Curriculum planning models	N	2.75	.84	2.98	.75
48. Curriculum innovations	T	3.28	.70	2.81	.79
49. Developing a course outline	B	3.53	.65	3.43	.90
50. Selecting curriculum resources	B	3.25	.77	3.48	.64

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/ Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
Program Budgeting/ Funding					
51. Program resources	B	3.67	.53	3.43	.69
52. Strategies for funding classroom activities	B	3.37	.69	3.13	.75
53. Strategies for funding program activities	B	3.28	.70	3.20	.71
54. Budgeting	B	3.28	.66	3.48	.64
55. Purchasing supplies and equipment	B	3.11	.78	3.31	.67
56. Rationale for equipment and facilities	B	3.18	.83	3.17	.72
57. Utilizing other local resources	B	3.31	.68	3.25	.65
Advisory Committees					
58. Planning and developing advisory committees	B	3.47	.74	3.54	.66
59. Organizing and utilizing advisory committees	B	3.33	.72	3.57	.66
Recruiting and Marketing					
60. Marketing your program	T	3.75	.50	2.96	1.11
61. Developing and implementing student recruitment activities	B	3.58	.60	3.02	.94
62. Developing and implementing student retention activities	B	3.49	.61	3.13	.97
63. Communicating with prospective students	B	3.67	.53	3.17	.84
64. Developing a public relations program	B	3.53	.61	3.28	.90
65. Selling your program to administrators	B	3.64	.54	3.41	.88
66. Writing newspaper articles	B	3.44	.66	3.35	.97

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/ Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
Summer Programs					
67. Summer calendar	B	3.26	.85	3.37	.81
68. Developing summer program goals and objectives	B	3.19	.79	3.30	.92
Organization and Time Management					
69. Instructional environment	T	3.36	.64	2.85	1.04
70. Working in a multi- teacher department	N	2.92	.81	2.54	1.04
71. Maintaining program quality on a block schedule	U	2.89	1.01	3.21	.91
72. Managing your time	T	3.47	.74	2.56	1.04
73. Planning a teacher calendar	B	3.44	.66	3.25	1.00
74. Secondary Ag program management	T	3.03	.79	2.89	.89
Professionalism					
75. Professional organizations activities	B	3.36	.68	3.22	.95
76. Public relations	T	3.63	.60	2.94	.99
Legal and Safety Issues					
77. Ethical responsibility of the Agricultural Ed program	B	3.40	.55	3.24	.91
78. Safety planning	B	3.58	.60	3.19	.95
Technology and Program Planning					
79. Integrating technology into the classroom	T	3.50	.61	2.83	1.06
SAE					
80. Using SAE as teaching techniques	B	3.58	.60	3.24	.91

Competency Statement	Group Consensus ^b	Level of Importance ^a			
		Agricultural Education Teachers (T) N = 36		University/ Teacher Educators (U) N = 54	
		Mean	SD	Mean	SD
Student Organizations					
81. Using the FFA as a teaching technique	B	3.53	.77	3.20	.98
82. Role of Agricultural teaching in FFA	B	3.60	.69	3.31	1.01
83. FFA program of activities	B	3.58	.55	3.26	.85
84. Planning a successful FFA chapter	T	3.60	.69	2.47	1.15

^a 1=Not Important; 2=Somewhat Important; 3=Important; 4=Very Important.

^b Item rated as "Important" by T=Agricultural Education Teachers, U=University/ Teacher Educators, B=Both Teachers and Teacher Educators, N=Neither Teachers nor University Teacher Educators.

According to Table 1, teachers and teacher educators were in agreement that all statements in the categories *Program Evaluation*, *Program Budgeting/Funding*, *Advisory Committees*, *Summer Programs*, *Legal and Safety Issues*, and *SAE* should be included in a teacher preparation program planning course. Conversely, the least amount of consensus occurred between teachers and teacher educators in the categories of *Levels of an Agricultural Education Program*, *State and National Leadership*, and *Organization and Time Management*.

Teachers rated the following categories as important with no mean lower than a 3.00 for *Program Evaluation*, *Program Budgeting/Funding*, *Advisory Committees*, *Recruiting and Marketing*, *Summer Programs*, *Professionalism*, *Legal and Safety Issues*, *Technology and Program Planning*, *SAE*, and *Student Organizations*. Teacher educators ranked the following categories as important with no mean lower than a 3.00 for *Program Goals*, *Program Evaluation*, *Program Budgeting/Funding*, *Advisory Committees*, *Summer Programs*, *Legal and Safety Issues*, and *SAE*.

The two highest rated items for teachers were *Selling Your Program to the Community* (3.78) and *Marketing Your*

Program (3.75). These two items were located in the categories *Program Needs Assessment* and *Recruiting and Marketing* respectively. The two highest rated items for teacher educators were *Components of a Total Program* (3.69) and *Identifying Curriculum* (3.63). These two items were located in the categories *Introduction to Program Planning* and *Curriculum Planning* respectively.

The lowest rated item for teachers, *Mission Statement* (2.69), was in the category *Program Goals*. While the lowest rated item for teacher educators *Writing Descriptions of School and Community* (2.41), was in the category *Program Needs Assessment*. No item received a score below 2.00 from either teachers or teacher educators.

Conclusions/Recommendations

University pre-service faculty and high school teachers both agreed that 59 content items were important and should be taught in an online program planning course to be used by agricultural preservice education departments using an open courseware approach. These 59 content items were arranged by the researchers (Table 2) in similar categories or units as the framework

for the course. This future course could meet the needs of students, teachers and teacher educators nationwide since they were derived from the teachers (learners), teacher educators (subject specialists) and existing syllabi collected from agricultural teacher education programs (contemporary studies).

Teachers may have perceived items such as *curriculum innovations, marketing your program, organizing the instructional*

environment, managing your time, public relations and integrating technology as important because these items are having a current impact on their ability to manage an effective agricultural education program. Further research should be conducted to determine if issues related to these items should be addressed by pre-service agricultural education programs in this course or in another course.

Table 2

Proposed Framework for an Agricultural Education Pre-service Program Planning Course

Competency Statement	
A. Introduction to Program Planning	<ul style="list-style-type: none"> The components of a total program Enhancing the local program Rationale for planning Goals for a quality program Standards for quality Ag Ed program Steps to planning effective programs Program management Teacher Responsibilities Program planning materials
B. Program Goals	<ul style="list-style-type: none"> Developing a philosophy of Ag Ed Establishing program goals Short range objectives of an Ag Ed program Long range objectives of an Ag Ed program Interpret school policies regarding program
C. Program Evaluation	<ul style="list-style-type: none"> Program improvements Evaluating Ag Ed impacts Evaluating Ag Ed programs Reporting accomplishments
D. Program Needs Assessment	<ul style="list-style-type: none"> Community survey Community considerations Program partnerships Identifying industry needs Key issues related to parent/ community relations Selling your program to the community Identifying facilities of an Ag Science and business programs

Competency Statement	
E. Professionalism	<ul style="list-style-type: none"> Planning a year long calendar Professional organizations activities
F. Curriculum Planning	<ul style="list-style-type: none"> Identifying curriculum Course selection Content sequence Developing a course outline Selecting curriculum resources
G. Program Budgeting / Funding	<ul style="list-style-type: none"> Program resources Strategies for funding classroom activities Strategies for funding program activities Budgeting Purchasing supplies and equipment Rationale for equipment and facilities Utilizing other local resources
H. Advisory Committees	<ul style="list-style-type: none"> Planning and developing advisory committees Organizing and utilizing advisory committees
I. Recruiting and Marketing	<ul style="list-style-type: none"> Marketing your program Developing/ implementing student recruitment activities Developing/ implementing student retention activities Communicating with prospective students Developing a public relations program Selling your program to administrators Writing newspaper articles
J. Summer Programs	<ul style="list-style-type: none"> Summer calendar Developing summer program goals and objectives
K. Legal and Safety Issues	<ul style="list-style-type: none"> Ethical responsibility of the Ag Ed program Safety planning
L. The Total Agricultural Education Program	<ul style="list-style-type: none"> Role of Agricultural teacher in FFA and SAE Using SAE as teaching technique Using the FFA as a teaching technique FFA program of activities

Researchers need to further study those items that only university faculty or high school teachers thought were important. The difference in perception by the two groups may be due to previous experiences and unique insights related to that item. University faculty may be more aware of educational initiatives, federal legislation and research that have not yet affected programs at the local level. This may be the case with the content items such as *changes in the purposes of agricultural education and maintaining program quality on a block schedule*.

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