ADVANCED TECHNOLOGICAL EDUCATION PROGRAM EVALUATION CONTRIBUTORS AND INHIBITORS INFLUENCING ARTICULATION AGREEMENTS

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Abstract

This brief examines the major contributors and inhibitors influencing ATE projects' articulation agreement activities (which are aimed at enabling students to matriculate to higher levels of technological education). Fifteen factors (i.e., issues) were identified that potentially contribute, either positively or negatively, to these articulation agreements. Only two factors emerged that were considered major contributors to articulation agreements. None of the 15 factors were considered by ATE PIs as inhibitors to their project's articulation agreement endeavors. Overall, the findings suggest that projects significantly engaged in successful articulation agreements are successful because of "student demand and interest" as well as "faculty support and advocacy." None of these factors emerged as an issue of concern on a programmatic level, however.

The 2006 Briefing Papers are prepared from survey census data collected in February and March 2006 from principal investigators (PIs) of ATE projects and centers.[1] Each surveyed *project*/center was currently funded by the ATE program and had been funded for at least one year prior to the survey. The response rate for this survey was 92 percent (163 of 178 grantees in the sample). Fifteen percent of the grantees (25 of 163) indicated that they met the criteria for significant engagement in articulation agreements and completed that section of the survey. For centers, the criterion for significant engagement was that ≥ $100,000 of their direct costs in the past 12 months was allocated specifically for that activity. For projects, the criterion was that ≥ 30 percent of their direct costs was allocated specifically to the activity. Of the 25 respondents, 12 percent (3 of 25) were centers and 88 percent (22 of 25) were projects. Although other papers in this series examine the differences between centers and projects, this paper does not, given the small number of centers that reported engaging significantly in articulation activities.

1. WHAT ARE CENTERS AND PROJECTS DOING IN TERMS OF ARTICULATION?

Although the articulation partnerships track has been eliminated from the ATE program (National Science Foundation, 2005) and is now considered a "secondary goal . . . between two-year and four-year programs for K-12 prospective teachers that focus on technological education" (National Science Foundation, 2005, p. 2), it is still an important facet of the overall program effort and one that is mandated by Congress. Essentially, ATE articulation agreements are intended to enable students

who complete a program or series of courses to matriculate to a higher level of education at specified institutions.

In the 12 months prior to the survey, as shown in Table 1, the 25 PIs reported a total of 69 agreements at 95 locations, which resulted in 106 student matriculations.

Table 1.
Articulation Facts

	Between High Schools and 2-Year Colleges	Between 2-Year and 4-Year Colleges	Teacher Preparation Between 2-Year and 4-Year Colleges	Total
Agreements	38	28	3	69
Institutions	51	40	4	95
Students	14	53	39	106

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[1] This briefing paper is based on survey data from the 2006 survey of ATE *projects* and Centers. For a description of the survey's sampling method, response rates, and overall findings, refer to the *Advanced Technological Education Program Fact Sheet* (Coryn, Ritchie, & Gullickson, 2006), *ATE Indicators of Productivity: Six-Year Trends 2000-2005* (Gullickson, Coryn, & Hanssen, 2006), and *2005 ATE Technical Report: Processes, Procedures, and Results* (Coryn & Hanssen, 2005).

The majority of agreements occurred between high schools and colleges. The large majority of matriculations occurred between 2- and 4-year colleges. Most noteworthy are agreements for teacher preparation—2-year college to 4-year college matriculations. They comprise 4 percent of agreements but produced 37 percent of the student matriculations. This suggests that this type of articulation agreement is quite popular with students.

2. KEY ISSUES

Fifteen factors (i.e., issues) were identified from prior surveys related to potential inhibitors and contributors to grantees' program improvement work. The identification process used to generate these issues was largely a thematic analysis of qualitative data obtained from prior surveys. The predominant issues, shown in the order in which they appeared in the survey, are listed below:

- Student interest/demand
- Faculty support/advocacy
- Faculty turnover
- Course specifications
- Quality of instructors at institutions from which student matriculate
- Admissions requirements
- Support from college administrators
- Institutional program approval
- Stability of institutional funding
- Ability to generate revenue
- Cost to maintain/update the articulation process
- Partnership with other education institutions
- External funding
- Demand by business and industry
- National economic trends

3. RANKINGS OF KEY ISSUES

From these 15 issues, PIs were asked to select and rank order the top 3 that were relevant to their project's program improvement, where 1 was "most important," 2 was the "next most important," and 3 was the "third most important." Thus, each PI was given 3 "votes" to cast in terms of what they perceived as the key issues inhibiting or contributing to their program improvement efforts. In all, 25 ATE PIs provided rankings.

As with our brief on *Contributors and Inhibitors Influencing Program Improvement* (Coryn, Gullickson, & Ritchie, 2006) the rank order of the key issues was determined in 2 ways. First, each issue was assigned

points, where a ranking of 1 was given 3 points, a ranking of 2 was given 2 points, and a ranking of 3 was given 1 point; that is, the first most important issue received 3 times as many points as the third most important. The score for each factor was then summed across all respondents to generate a total score. Second, if a respondent selected and ranked an issue (i.e., 1, 2, or 3) it was coded as 1; if not, it was coded as 0.

The two procedures produced comparable, though not identical orderings of the list of issues. The first procedure gives greatest weight to those items ranked highly, while the second procedure gives all selected items equal weight. As shown in Table 2, the two methods yield identical rankings for only the top two to four factors. Additionally, the Number of Ratings column shows that no issue was selected by a majority of PIs. In fact, "student interest and demand," which stands out as the number 1 priority issue, was selected by 32 percent of PIs. The second issue, "faculty support & advocacy," was identified by 24 percent. No other issue was selected by more than 16 percent of the respondents.

Table 2.
Most Important Issues as Ranked by 25 ATE Grantees

Rank	Issue	Sum of Ratings (score)	Number of Ratings N	P
1	Student interest/demand	22	8	32%
2	Faculty support & advocacy	14	6	24%
3	Partnership with other education institutions	8	3	12%
4	Course specifications (e.g., content, # of credit hours)	4	4	16%
5	External funding	4	2	8%
6	Support from college administrators	3	2	8%
7	Demand by business and industry	3	2	8%
8	Anticipated stability of institutional funding	3	1	4%
9	Faculty turnover (e.g., retirements, new hires)	2	2	8%
10	Quality of instructors at institution from which students will be articulating	2	1	4%
11	Community college & university admission requirements	2	1	4%
12	National economic trends	1	1	4%
13	Institutional program approval	1	1	4%
14	Expected ability to generate revenue	0	0	0%
15	Expected cost to maintain/update the articulation process	0	0	0%

Note. Rankings of "most important issue" (1) was scored as 3, "second most important issue" (2) was scored as 2, and "third most important issue" (3) was scored as 1.

Two issues, "student interest and demand" and "faculty support and advocacy," stand out as important. Each was

identified as important by a quarter or more of the PIs. The other factors do not emerge as major areas of concern. Rather, some PIs rated each issue as important, but those ratings were widely scattered across the remaining items. The two lowest ranked issues were not listed as important by any PI.

4. ARE THE KEY ISSUES CONTRIBUTORS OR INHIBITORS TO ARTICULATION AGREEMENTS?

In addition to selecting three issues that they saw as being important to their articulation agreements, PIs were also asked to rate the extent to which each selected issue was an inhibitor or contributor to them: 1 = major inhibitor; 2 = inhibitor; 3 = uncertain; 4 = contributor; and 5 = major contributor.

All of the top four issues are viewed as contributors to articulation agreements. None was rated by any PI as an inhibitor. Ratings for the four top-ranked issues are summarized in Table 3. Note that the sample size for each varies from a high of 6 for the highest ranked issue to 2 or 3 for the remaining three issues. These differing sample sizes occurred because each PI rated only the three factors he or she selected as important and several respondents failed to complete the follow-up ratings.

Table 3.
Summary of Issues as
Inhibitors and Contributors to Articulation Agreements

Rank	Issue	Major Inhibitor	Inhibitor	Contributor	Major Contributor
1	Student interest/demand ($n = 6$)	0%	0%	50%	50%
2	Faculty support & advocacy ($n = 3$)	0%	0%	0%	100%
3	Partnership with other education institutions ($n = 2$)	0%	0%	0%	100%
4	Course specifications ($n = 3$)	0%	0%	33%	66%

Note. Row totals do not necessarily equal 100%, because the rating option of "uncertain" is not included in this table.

5. OVERALL CONCLUSIONS AND RECOMMENDATIONS

Two major premises emerged from these results. One is that successful articulation is driven by an array of factors that is not readily condensed to one or two key issues. Student interest/demand emerged as the most important factor. Yet, each of the top four factors was rated by at least two PIs as a major contributor to the articulation agreement.

Drawing conclusions from such a small sample is hazardous, especially if the conclusions are intended to anticipate future articulation agreement situations. Yet, these findings seem to bode well for the articulation agreement efforts. The four factors ranked most highly identify some points viewed as most important in contributing to articulation agreement success. But, certainly, the dispersion of ratings across more than a dozen factors suggests that PIs must work with their partners to focus on specific issues pertinent to their articulation agreement situation.

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