

Dissemination: A Key Element of the ATE Program

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Executive Summary

For the National Science Foundation (NSF) to derive maximum benefit from its investment in technology education and workforce development, it is essential that research findings, newly developed curricula, and innovative instructional strategies developed at Advanced Technological Education (ATE) centers and projects (i.e., *projects*) be effectively disseminated and used by others. This paper: (1) highlights key findings from previous studies of dissemination, (2) reports findings related to dissemination from the WMU evaluation project's 2000 and 2001 surveys and site visits to selected ATE *projects*, (3) describes comprehensive dissemination examples, (4) shares findings from a dissemination survey of ATE center directors and from an analysis of ATE centers' Web sites, (5) proposes a new paradigm for dissemination, and (6) presents recommendations for strengthening NSF proposal requirements for dissemination, improving practices at ATE *projects*, sharing effective practices, and evaluating the impact of dissemination. The findings from this paper should be especially useful to NSF and ATE staff but also helpful to other educators and researchers looking for new ideas regarding dissemination.

A useful definition of dissemination was developed by Hutchinson and Huberman (1993) who defined it as "the transfer of knowledge with and across settings, with the expectation that the knowledge will be 'used' conceptually or instrumentally."

Several theories or frameworks were reviewed that add insight into dissemination by ATE *projects*. The Dissemination Analysis Group (Klein, 1992) identified four functions of dissemination and appropriate strategies for achieving each.

1. Spread – the one-way broadcasting of information, in order to increase awareness
2. Choice – the provision of information on options intended to help users compare alternative resources
3. Exchange – interaction of information, materials or perspectives
4. Implementation – technical assistance, training or other forms of support to change attitudes or behaviors and to institutionalize changes over time

The ATE *projects* may find that all four functions are appropriate for their use at different times depending on the specific needs of individual clients.

Prior studies have found that successful dissemination systems have some common elements:

- Shows understanding of user characteristics
- Uses preferred language styles of users
- Is timely
- Is comprehensive
- Is accessible

- Uses validated materials/practices
- Has materials that meet user needs and concerns
- Includes electronic, print, and person-to-person communications
- Is interactive
- Is integrated with other R&D functions
- Has ongoing interactions with users
- Uses networks to help with dissemination
- Has training and technical assistance to match user needs

Federal guidelines related to dissemination also contain insight into factors that contribute to successful dissemination. This paper cites relevant guidelines from the Fund for the Improvement of Postsecondary Education and the Dissemination Partnership Program. It also describes and gives examples of items from the *Dissemination Self-Inventory* used by the National Institute on Disability and Rehabilitation Research.

As an example of a comprehensive dissemination approach, this paper describes dissemination strategies being used by the National Dissemination Center for Career and Technical Education and strategies used at ATE centers.

The WMU evaluation project 2000 and 2001 surveys included some aspects of curriculum dissemination. The researchers found that less than half of the materials developed by the *projects* surveyed were used at sites other than the one that developed them. The site visits indicated that dissemination was included as a specific objective in 5 of the 13 sites visited. Dissemination was usually discussed by the visitation teams under the category of materials development or in relation to sustainability.

While some dissemination activities can be expected at all NSF-funded ATE *projects*, this paper proposes different levels of dissemination that might be expected of smaller projects (funded for under \$100,000), of larger projects, and of multiyear ATE centers. Since the centers have the largest resources for dissemination, this author focused most heavily at this level with some additional data collection used to identify practices that could also be used less intensely with smaller projects. Thus, ATE center directors were surveyed and center Web sites analyzed to supplement the limited information about dissemination practices from the WMU evaluation project surveys and site visits. The ATE center survey included findings regarding what dissemination strategies the center directors thought worked especially well, suggested changes or additions to NSF dissemination guidelines and ideas for sharing “best practices” in effective dissemination.

Since the concept of dissemination is changing, this paper next describes a new paradigm that may be especially appropriate for ATE center dissemination that includes two concepts recently borrowed from e-commerce—*integrated solutions providers* and *customer relationship management*. Combining ideas from these two concepts with the roles that ATE centers have been playing in dissemination can lead to a newer definition of dissemination. In this new paradigm, dissemination is “the process of knowing your clients and systematically providing them, either directly or in partnership with other

organizations, with knowledge, strategies, products and support that can enable them to better solve their problems and enhance their delivery of effective technical education.” The benefits and dangers of borrowing from a business model to examine educational dissemination are addressed.

Finally, the paper makes recommendations regarding four areas: strengthening ATE proposal requirements for dissemination, implementing dissemination practices at ATE *projects*, developing strategies for sharing effective dissemination practices, and evaluating dissemination impact.