

## WHAT WORKS - A PKAL ESSAY

# SOME THOUGHTS ON THE PAST, PRESENT AND FUTURE OF PROJECT KALEIDOSCOPE

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### Story-telling and leadership in the work of reform

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*Any leader who wishes to be effective must acknowledge, and attempt to deal realistically with, the enduring features of leadership: [that a] leader is likely to achieve success only if she can construct and convincingly communicate a clear and persuasive story; appreciate the nature of the audience(s), including its changeable features; invest her own (or channel others') energy in the building and maintenance of an organization; embody in her own life the principal contours of the story; either provide direct leadership or find a way to achieve influence through indirect means; and, finally, find a way to understand and make us aware of, without being overwhelmed by, increasingly technical expertise.*

- Howard Gardner, *Leading Minds*.

### The PKAL message and audience

In his book *Leading Minds*, Harvard psychologist Howard Gardner explores the work of a select group of twentieth-century leaders. Among the “constants” of leadership he finds in their individual lives is that of “the central story or message.” From the beginning, PKAL has sought to be a leader in the national effort to build and sustain undergraduate STEM programs that serve twentieth-century students, science, and society most effectively. Our message has been about *what works* in strong undergraduate programs, a message directed toward audiences of faculty and administrators in colleges and universities across the country, as well as members of the wider stakeholder community.

Our conviction was, and continues to be, that:

*Unless everyone with a stake in undergraduate science and mathematics education make tough decisions now about strategic priorities— about dollars, people, space, and time— effective reform will not happen. Unless all partners work together, this nation's educational shortcomings will not be addressed adequately.*

*Effective reform takes money, to be sure. But more important is an environment for reform that encourages planning, fosters creativity, and rewards useful innovation. The environment for reform must be based on a driving vision of what works.*

- PKAL Volume I— What Works: Building Natural Science Communities, page IX.



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## The PKAL organization

This PKAL message is promoted to its intended audience through a coordinated series of activities orchestrated by a volunteer cadre of leading agents of change within the undergraduate STEM community. Leaders within PKAL– faculty and their administrative colleagues, officers of disciplinary societies and educational associations, as well as design professionals– volunteer in planning and leading workshops and roundtables, developing and editing publications, exploring and setting agendas for PKAL's future. PKAL is an informal, non-membership alliance of persons with shared ideas and ideals about the *why* and the *how* of shaping the future of undergraduate STEM. Begun in 1989 with a charge from the National Science Foundation to establish an agenda for reform within the community of liberal arts colleges, PKAL now has connections with colleges and universities in all sectors of higher education, in all parts of the country.

## The PKAL approach

The PKAL approach, for more than a dozen years, reflects our conviction that building community– in a single classroom and lab, on an individual campus or between campuses, from the regional, national, virtual, or global perspective– is both the *means* and the *end* of successful reform.

In the 1989 PKAL position paper, we cited Robert Hutchins:

*A community must have a common aim, and the common aim of the education community is the truth. It is not necessary that the members of the community agree with one another. It is necessary that they communicate with one another, for the basis of community is communication. In order to communicate with one another, the members of the community must understand one another, and this means that they must have a common language, a common stock of ideas.*

All PKAL efforts– workshops and assemblies, print and electronic publications– are designed to draw together a national community focused on shaping the future of

undergraduate STEM. Does this approach work, at least as a first step in getting people to explore common agendas? Following are comments from participants of past PKAL workshops:

*Sitting together at the facilities planning workshop, we realized that only we biologists on our campus had been involved in discussions about the new science building. And we realized that science was changing in ways that required new and different connections between the science departments on our campus. Our new spaces will be different because of these conversations.*

*Until my chemistry colleague and I spent time together at the research-rich workshop, we had no idea how closely connected my work in biology was to hers. We've submitted a joint proposal to NSF and are planning a team-taught course for next year.*

*Now my budget battles with the dean will be on an entirely different level, because he's spent two days listening to stories about programs that work.*

*Until this weekend, as a first-year faculty member, I had never had a serious conversation with the senior professor in my department.*



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Equally telling, variations of the PKAL vision of *what works* can now be found in departmental mission statements, in institutional materials directed toward perspective students or donors, and in documents outlining the strategic planning process for new spaces for science. Whether or not everyone is in complete agreement about *what works*, there is an increasing persistence of informed discussions on campuses across the country, and within stakeholder communities, about issues that matter in regard to the education of current and future undergraduates in this country.

More important to note, however, is the increasing number of stories that can be told about what happens when a community begins to take seriously the messages about the *why* and *how* of reform. Many of these have been presented and will continue to be presented in a variety of PKAL venues. Such conversations should be easy, in that the *doing of science* is inherently a social activity, carried about by people in settings where face-to-face communication and shared values create a common culture.

*Science is about a great many things.... It's about the systematic accumulation of facts and figures. It's about the construction of logically consistent theories to account for those facts. It's about the discovery of new materials, new pharmaceuticals, and new technologies.... But, at heart, science is about the telling of stories— stories that explain what the world is like, and how the world came to be as it is. And like older explanations, such as creation myths, epic legends, and fairy tales, the stories that science tells help us understand something about who we are as human beings, and we relate to the earth.*

– M. Mitchell Waldrop,  
*Complexity.*

The story-telling in PKAL started in 1990 with a three-day brainstorming session at Hope College, with thirty-six faculty, deans and presidents wrestling with how to define and describe *what works*. All of us told our own stories about what worked, for us personally and with students. This was an important first step for PKAL, not only because we learned about the potential of story-telling, but that the end result was a message that was timely and powerful.

We will continue to tell stories within PKAL about colleges and universities that are coming to understand what it takes to identify, create, develop and sustain *what works*, given their particular context and circumstances, identity and mission, in ways that serve the larger interests of society. ■