

An Action Research Paradigm for Institutional Research

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Introduction

With the onslaught of technological innovations, institutional researchers are able to store, analyze, and disseminate program related data and information in unprecedented quantity. But mechanisms for linking these data to programmatic planning, evaluation, and improvement are often lacking. The authors propose an action research approach for ensuring that critical data are used by key stakeholders to implement data-driven interventions for continuous program improvement. This approach allows the institutional researcher to move beyond the role of data conveyor, to one of facilitator of critical program and institutional change. Most importantly, the action research paradigm changes the relationship between the information requester/ recipient and information provider/researcher from a client-service provider to collaborators promoting reflective practice and organizational learning.

This paper describes the general outlines of an action research paradigm for institutional research and then compares it to the more traditional applied research approach with regard to participants, activities, results, and impact. Participatory action research is proposed as an effective method for providing more opportunities for key stakeholder involvement, obtaining useful information from diverse stakeholders, analyzing program outcomes and processes, and linking results with action and proposed improvements.

Literature Review

Kurt Lewin and colleagues introduced action research in the 1940s as a form of experimental inquiry and as an effective method for resolving societal problems. With the

onslaught of World War II, action research was offered as an effective method for addressing social problems such as inter-group conflict and racial prejudice. Early action research paradigms were also employed to more effectively link employee survey data with action in manufacturing plants, particularly with regard to organizational problem resolution and large-scale change (e.g., Coch & French, 1948; Likert, 1967; Whyte, & Hamilton, 1964).

In the era of post-war reconstructionist activity, action research was employed as a technique for implementing educational reforms and developing curricula. McKernan (1991) reports that action research was employed as a “general strategy” for redesigning curriculum to address multifaceted social problems such as inter-group conflicts and prejudice in the school systems (as cited in Masters, 1995). According to Masters, the research was typically conducted by outside expert researchers in collaboration with teachers and the schools. Stephen Corey at Teachers College at Columbia University is recognized as one of the earliest advocates of action research in the field of education. Corey “believed that the scientific method in education would bring about change because educators would be involved in both research and the application of information” (Ferrance, 2000, p. 7). However, action research had its detractors. In the mid 1950s action research was criticized for being unscientific and as the work of amateurs (McFarland & Stansell, 1993). The growing split at this time between science and practice also detracted from the popularity of action research. The use of scientific designs and quantitative methodologies in laboratory settings was advocated as a more effective approach in solving educational and other social problems (Ferrance, 2000; Masters, 1995). But by the 1970s, the pendulum had swung back and action research resurfaced again as an effective way to bridge the gap between theory and practice.

The resurgence of action research in the 1970's took several forms. It was incorporated in large part in the work of Argyris and Schon (1978, 1996) on organizational learning. Following this line of development, Senge (1990) incorporated the action research paradigm into his work, *The Fifth Discipline*, as the discipline of mental models. On another front, the basic tenets of action research were manifest in the growth of evaluation research methods in both their quantitative (Rossi, Freeman, and Wright, 1979; Rossi and Freeman, 1993) and qualitative (Lincoln and Guba, 1985) forms.

In more recent times, empowerment evaluation has been promoted as an effective approach for involving clients actively in research aimed directly at improving their programs (Fetterman and Eiler, 2001). According to Fetterman and Eiler, empowerment evaluation has an explicit value orientation as it is designed to help people help themselves and improve their programs using a form of self-evaluation and reflection. Program participants and recipients conduct their own evaluations while an external evaluator serves as a coach or additional facilitator depending on internal organizational functions and program capabilities.

The action research model was advocated in educational and healthcare settings as a useful method for evaluating programs and implementing fundamental change during the early 1990's and into the year 2000. It has been employed as an effective approach for increasing the understanding of classroom dynamics and improving teaching and learning (Harwood, 1991), evaluating inclusive school programs (Dymond, 2001), examining the sociopolitical environment and concerns relevant for elementary school principals striving to work with disabled children and their families to implement successful inclusion programs (Brotherson, Sheriff, Milburn, & Schertz, 2001), improving a reading program for impoverished South African children

(Flanagon & Nombuyiselo, 1993), and managing change in an interdisciplinary inpatient unit in a large health care organization (Barker & Barker, 1994).

Harwood (1991) argues that action research can be an important tool for giving key stakeholders control at every stage of the research cycle and for advocating dialogue, reflection, and commitment to intended educational goals. Barker and Barker (1994) found the action research model to be an effective approach for reducing employee resistance to fundamental and necessary organizational changes. Their results suggested that the participatory model promoted positive staff morale, open communication, lower turnover, team problem solving, and improved goal attainment.

Applying Action Research to Higher Education Reform

On the basis of a strategic planning process recently undertaken with participants from the Association of American Colleges and Universities (AAC&U), Schneider and Shoenberg (2001) contend that higher education is in an era of transformative change. These authors report that college and university leaders are committed to making fundamental changes in an effort to improve teaching and learning. Moreover, external demands and pressures are creating a situation in which institutions must implement critical changes to remain competitive and effective providers of educational services. Although the institutions that will thrive and survive in the next decade are those that are able to successfully implement fundamental change, change often comes at a price. When change is introduced into a system, staff members, faculty, and students may feel that their stable and predictable world is being replaced with one that is unpredictable and uncertain.

Past research has shown that changing work environments can result in employees experiencing increased levels of uncertainty and role ambiguity (e.g., Ashford, 1988; Bennett,

Lehman, & Forst, 1999; Saifer, 1996). According to Morris (1992), the human capacity to accept change may limit organizational responses to environmental demands, and thus may impede the success of organizational transitions. In fact, successful program and institutional change necessitates the acceptance of proposed interventions as well as the maintenance of sustained support for the changes (Carr, 1997; Lewin, 1952).

Many of the proposed strategies for promoting support for change focus on involving employees in the change process. Kotter and Schlesinger (1992) suggest that involving key stakeholders in the change process and encouraging input is likely to foster commitment to proposed changes. The proposed participatory action research paradigm is likely to be a valuable method for successfully implementing large-scale change in a variety of educational settings.

According to Schuh and Upcraft (2001), one of the primary criteria for accreditation in higher education is the ability to demonstrate that assessment results have been used to continuously improve institutional effectiveness. They report that accreditation depends on the institution's ability to effectively raise critical questions about program efficacy, identify appropriate answers, and improve processes given assessment findings. We propose the action research model as a useful tool for promoting the collaboration, dialogue, and collective analysis required among faculty, administration, and governing boards for achieving educational standards of excellence.

The Action Research Model

The action research model is a powerful method for ensuring that stakeholders are active participants in the research process and that research results are used for program improvements. With this approach a research question is posed (e.g., is a specified program achieving attended outcomes) through a discussion among stakeholders and researchers. Data collection involves

both researchers and stakeholders, as does data analysis and especially the interpretation. Results are reviewed as part of a stakeholder action-planning activity. The interventions are implemented and data is again collected again to evaluate the effectiveness of the interventions. The action research model is thus a cyclical process of diagnosis, change, and evaluation.

Comparisons with a Traditional Approach

The traditional information support paradigm involves similar stages: problem definition, data collection and analysis, report preparation and dissemination, and follow-up. However, the role of the researcher and stakeholders is markedly different. In addition, the traditional approach is often more periodic and less systematic. Requests for information and analysis are viewed as independent tasks or projects rather than a continuing cycle, or perhaps spiral, of planning, evaluation, and improvement. Although ostensibly some stakeholder needs will be sufficiently met following an articulate presentation of program outcomes supplemented with artful displays of graphs and charts, it seems quite plausible that meaningful program improvement necessitates more explicit attempts to encourage stakeholder use of “supplied” data. The action research model process facilitates stakeholder involvement and investment in the research process. Table 1 highlights the major differences between these 2 research paradigms.

Insert Table 1 about here

Applications of the Action Research Model

In this next section we present three concrete examples where an action research approach is being applied to what began as traditional requests for information support for campus program and campus-wide issues.

Evaluation of New Student Orientation

New Student Orientation at Indiana University-Purdue University Indianapolis (IUPUI) is designed to provide incoming students with the resources and information they need to successfully meet university demands and acclimate to a new environment. During orientation faculty, staff, and a student-lead orientation team (the O’Team) share in the responsibility for introducing new students to IUPUI’s supportive and challenging learning environment. The orientation program (a full day program) serves approximately 5000 students yearly and has been expanded to include a “Family Connections Program.”

The first author and an IUPUI Nursing School faculty member were asked to conduct a comprehensive outcome evaluation the program. The primary purposes of this program evaluation were to 1) determine if the New Student Orientation process was meeting the needs of incoming students, 2) reassess the goals of orientation, and 3) understand the impacts of orientation on student participants’ knowledge, attitudes, and behaviors related to the stated goals. Generally, this evaluation was designed to help provide an informed perspective on the major strengths and deficiencies of the New Student Orientation process so that data-driven program improvements were possible.

Research Question and Evaluation Focus. During the initial phases of the evaluation process, orientation leaders and planners were brought together in an effort to clearly define the desired outcomes of the evaluation process. It was collectively decided that the evaluation

should focus on reevaluating the goals of orientation, determining if the diverse needs of new students (including commuters, international student, students from underrepresented ethnic groups, and older students) were being met, and to assess the extent to which orientation is impacting new students' knowledge levels, attitudes and behaviors related to their orientation experience. One critical component evaluation plan was the active involvement of the multiple stakeholders involved in implementing orientation (orientation leaders, faculty, administrators, student affairs staff, and student peer mentors). Moreover, it was also vital to seek input from a large sample of incoming student orientation participants.

Data Collection. During this phase, quantitative and qualitative techniques were employed in order to obtain a comprehensive understanding of the impact of New Student Orientation on student participants. Because many members of the IUPUI community have contact with incoming students, efforts were made to collect information from several perspectives. Focus groups and self-administered questionnaires were used to systematically collect the perceptions and opinions of multiple stakeholders (students, faculty, advisors, administrators, Student Life and Diversity (SLD) Staff, and O-Team members).

A series of 14 focus groups were conducted in spring and fall 2002 with all major orientation stakeholders included. Additionally, a questionnaire was administered to first-year student orientation participants enrolled in First-Year Seminar courses during the fall 2002 semester to assess their perceptions of New Student Orientation. The questionnaire was designed to measure students' self-reported changes in behaviors, learning gains, and perceptions of orientation three months after the start of the fall semester. At this point in time, students could report how orientation helped or did not help them in making their transitions to IUPUI. The questionnaires were mailed to instructors and they were asked to distribute them in classes.

During the data collection process, orientation leaders were actively involved in designing the focus group protocol and the self-administered questionnaire. Seeking their involvement ensured that the instruments were designed to assess useful information and ideally served to increase the chances that the collected data would be used to guide program improvements.

Data Reporting and Feedback. Following data collection, the researchers involved orientation leaders in the initial stages of data analysis. Preliminary results were presented and discussed in a meeting with the Director of New Student Orientation, The Assistant Director of New Student Orientation, and the Assistant Dean of University College (UC) (the unit that houses all the orientation programs). The data feedback session included a written report and verbal discussion of key findings. The information was provided to inform the orientation leaders about the perceptions concerning the current state of orientation program and encouraged their involvement in implementing potential changes. The orientation leaders asserted that commitment on behalf of the campus community was likely to be essential for change to be initiated and sustained so following the feedback meeting and suggested report revisions; the written report was distributed to key faculty committees and groups on campus. Furthermore, the written report was distributed to all focus group participants.

Development of Action Plans. During this phase the orientation leaders and other key stakeholders groups reacted to the data. Data was presented in a way that facilitated dialogue, conservation, and the development of action plans. For instance, the recommendations were framed as *questions* to guide the action-planning process. The following is an excerpt from the “New Student Orientation Program Evaluation Report:”

We recommend that New Student Orientation planners use this report to develop data-driven action plans to improve the orientation process. The following questions could serve as a starting point to guide action planning:

1. Are the above goals the most appropriate ones for New Student Orientation at IUPUI?
2. Would it be beneficial for orientation planners to take a strategic planning approach and engage in a self-reflective process in which they identify an agreed upon vision, mission, and the specific goals of orientation?
3. What implementation procedures could be introduced to create a more efficient orientation (e.g., less wait-time, reduced feelings of information overload, and a more organized experience)?
4. What strategies could be employed to make orientation a more interactive, engaging process so that students make more meaningful connections with other students, faculty, advisors, SLD staff, and O-Team members?
5. Should advising sessions be longer?
6. What strategies could be implemented to foster a greater sense of pride in IUPUI?
7. What new processes and formats could be introduced to help sustain students' interest and ensure that they are focused on the material being presented?
8. Should more information regarding financial aid, costs of attending, and scholarships be presented during orientation?
9. Should more programs tailored to the needs of older students, transfer students, and international students be implemented?
10. What structures and policies could be implemented to ensure more intentional integrations between the New Student Orientation and First-Year Seminars so that orientation is viewed as a more seamless process? (Hansen and Lowenkron, 2003, p. 4).

Action plans were developed to deal with the patterns found in the data, as prioritized by the orientation leaders. For example, New Student Orientation planners decided to start the orientation program with new students forming small groups rather than beginning the day by listening to a presentation done in a very large lecture hall. This change was proposed because evaluation results suggested that new students were not making sustained connections with other students, faculty, advisors or student affairs staff during orientation. Other data-driven action

plans included expanding the campus tour; providing a more in-depth, interactive technology session; implementing a more efficient process for students to obtain their ID cards (survey respondents complained about long wait-times); and including more information about costs of attending and financial aid.

Action. During this action phase, the orientation leaders will implement the above developed action plans. The researchers will play the role of supporter and facilitator during the action implementation process.

Assessment. Once the action plans have been implemented, further information will be gathered to determine if the proposed changes have begun, become accepted, or if further modifications in the plans are necessary. Orientation leaders and the researchers have already begun the process of developing an orientation exit instrument to monitor the impacts of these changes. Moreover, plans have also been made to re-administer the questionnaire designed to assess student participant perceptions three months after the start of the fall semester to determine the impacts of the changes employed during the summer 2003 series of orientation programs. Thus, the evaluation will begin the action research cycle again as a continuous program improvement and monitoring process.

Assessing the Impacts of a Residential Learning Community

IUPUI has proposed to implement a Residential Learning Community (RLC). A RLC project team was formed with the overall objective of conceptualizing what a residential learning community at IUPUI should look like and creating a multi-year strategic plan. A secondary objective was to develop strategic initiatives pertaining to four specific residential communities (first year student learning community, undergraduate student apartments, international house, honors house, and graduate/professional student apartments). As part of the Residential Learning

Community project plan, the development of an integrated assessment plan was proposed. The RLC team was interested in conducting comprehensive formative evaluations so that program impacts could be understood and evaluation results could be used to make program improvements.

Research Question and Evaluation Focus. The researcher assigned to this task was originally asked to provide a ‘baseline report’ on whatever we know about students living in IUPUI residence halls. Instead of proceeding as asked, the researcher engaged the RLC team in a dialog to help clarify the goals of the Residential Learning Community and determine exactly what type of information would be most relevant to the priority goals of the effort. The researcher wanted to ensure that the RLC team was involved in articulating more specific and measurable goals so that the assessments results would be more useful. Baseline data was then collected and presented in a framework relevant to the initial broad goals. The next phase in the assessment plan process involved a meeting with the RLC team to present the baseline data and work as a group to specify an assessment plan that included agreed upon data collection procedures, key indicators, research designs, deployment plans, etc.

The RLC team collectively decided to seek wider support and obtain feedback from the campus community with regard to the RLC Project Plan objectives and the RLC Assessment Plan. A townhall meeting was convened to obtain input from faculty, staff, and students. The meeting format consisted of presentations given by RLC team members and small group discussions guided by specific questions. The questions posed to the small groups included the following:

- 1) How should faculty be involved in campus housing?
- 2) What are ways we can involve faculty in the Residential Learning Community Project?

- 3) How do you think the Principles of Undergraduate Learning (IUPUI's general education outcomes) might be actualized into residence life?
- 4) What other Residential Learning Communities do you think should be developed in the future?
- 5) Are there key performance indicators that we have not mentioned that you think would be important to consider (as part of the Residential Learning Community Assessment Plan)?

Results from the townhall meetings were used to guide RLC project plans.

Additionally, in terms of the RLC Assessment Plan, results of the small group discussions were used to set objectives and provide direction for the data collection.

Data Collection. The RLC program will be implemented in various stages and thus, data will be gathered at several different points during RLC implementation. Further, within the RLC program there are several smaller programs with unique goals. Information will be gathered from various groups to identify if the programs are being implemented as conceptualized and if they are achieving intended goals. The systematic data collection procedures will provide opportunities for the RLC staff and program directors to learn about the impacts of their programs.

Data Reporting and Feedback. Following data collection, the researcher will involve the RLC team in the stages of data analysis. Preliminary results will be presented and discussed in a meeting with the RLC team and the appropriate program directors. Further analyses may be necessary following these discussions. The data feedback will be provided by written reports presented at meetings. The information will be provided to inform the RLC staff about the current state of the RLC programs and to encourage their involvement in the use of results for program improvements.

Development of Action Plans. During this phase the RLC client groups will react to the data. Data will be presented in a way that will facilitate dialogue, conservation, and the

development of action plans. Action plans will be developed to deal with the patterns found in the data, as prioritized by the client groups. Due to the fact the Residential Learning Community consists of many components and programs, action plans specific to programs may have to be developed.

Action. During the action phase, the client groups will implement the plans developed during the data feedback process. The researcher will play the role of supporter and facilitator during the action plan implementation process. The implementation of action plans may necessitate fundamental institutional changes to accomplish key objectives due to the involvement of many constituents.

Assessment. Once the RLC team develops action plans based on results, another cycle of data collection may begin so that actions can be monitored and evaluated for effectiveness. This evaluation process may lead to beginning the action research cycle again as part of a continuous program improvement effort.

Assessing the Campus Climate for Diversity

The IUPUI Chancellor's Diversity Cabinet was established in January 1999, "to oversee the ultimate transformation of IUPUI from a campus that believes in diversity to a campus that lives its commitment to diversity" (Chancellor's Gerald Bepko's "Call to Action" on Diversity Cabinet web site, <http://diversity.iupui.edu/cabinet/>). Through its first year, the Cabinet 'took stock' of the campus climate for diversity by conducting a self-study under the guidance of a nationally renowned expert. As part of this process, the Cabinet invited to its meetings representatives from the various academic schools and administrative areas, to learn about initiatives underway in each unit to promote diversity as an organizational and academic asset.

By the end of this year, the Cabinet developed a vision for diversity at IUPUI, which includes a working definition of diversity for the campus:

At Indiana University Purdue University Indianapolis (IUPUI), diversity means three things: (1) diversity is an educational and social asset to be reflected in our learning and work objectives; (2) the persons who comprise our academic community reflect both the current diversity of our service region as well as the evolving demographics of a state and city that aspire to participate fully in a global society; and (3) IUPUI's social and physical environment will enable all of its members to succeed to the fullest extent of their potential. (From IUPUI Vision for Diversity – Full text available at <http://diversity.iupui.edu/vision.html>).

The Vision for Diversity includes 13 concrete performance objectives that require significant participation from virtually all academic and administrative units. In the Fall of 2002, the Chancellor asked the staff of the Office of Information Management and Institutional Research (IMIR) to develop a set of diversity indicators that would provide a ‘score card’ regarding campus progress toward obtaining the concrete objectives, and broader goals stated in the Vision.

Research Question and Evaluation Focus. Rather than proceeding directly as requested, IMIR staff requested a meeting with the Cabinet to discuss how this request for a summative evaluation could be transformed into a more formative process. During this meeting a sequence of steps was described, wherein two steering groups would be formed to guide the process. One group—the technical measurement group—would bring together individuals with expertise and experience in conceptualizing and measuring diversity. This group’s task would be to work from the Vision for Diversity to develop a manageable number of general performance

objectives that represented the breadth of the Vision. The product of this group would be sent to an ‘administrative’ group that included individuals from academic and administrative units that were ‘doing something’ to improve the campus climate for diversity. The second group’s objective would be to provide a ‘reality check’ on the measures produced by the first group. That is, they would provide feedback regarding the likelihood that the programs and activities currently focusing on improving the campus climate for diversity, would result in positive changes in the measures developed by the first group.

Through an iterative series of meetings, the groups worked their way through the general indicators and then down to a set of specific measures. Staff from the IMIR office participated in both sets of meetings to help integrate the process, and to provide information regarding the current and potential availability of the data to develop pertinent measures. The process resulted in the articulation of eight broad performance objectives, each of which included was supported by 3 to 5 concrete measures (the complete set can be seen at http://iport.iupui.edu/performance/perf_diversity.htm)

Data Collection. The information needed to populate the diversity performance indicators derived from a range of sources. For expediency sake, the first iteration included measures that were already available in a centrally collected form (e.g., institutional databases and campus-wide surveys of students, faculty, and staff).

Data Reporting and Feedback. The available measures were assembled for review by the Chancellor’s Diversity Cabinet. Cabinet members were asked to rate each indicator using the following scale:

1. (Green). Either at an acceptable level or clearly heading in the right direction and not requiring any immediate change in course of action. Continuing support should be provided to sustain momentum in these areas.
2. (Yellow): Not at an acceptable level; either improving, but not as quickly as desired or declining slightly. Strategies and approaches should be reviewed and appropriate adjustments taken to reach an acceptable level or desired rate of improvement.
3. (Red): Our current status or direction of change is unacceptable. Immediate, high priority actions should be taken to address this area.

Initial ratings were collected through an electronic survey. The results were tabulated and served as a starting point in a face-to-face meeting for developing consensus on the judgments. Little or no discussion was solicited over the few items for which there was unanimous (or close to unanimous) initial ratings. For indicators that had substantial variation in judgments, advocates for each rating presented their logic and, after period of modest discussion, another vote was taken. For two indicators, further information was requested before final votes were taken. Ultimately, each indicator received at least a three-quarter majority vote for its final rating. The final ratings were included in the campus performance indicator web site (as reference above), as well as in the Chancellor's annual State of Diversity address (see http://www.iupui.edu/administration/chancellorsnews/state_diversity_03.pdf)

Development of Action Plans. The agenda for the first post-rating meeting of the Chancellor's Diversity Cabinet focused on the development of action plans for addressing the results of the rating process. The resultant plan had three general components:

1. A set of actions to address the one “red” evaluation, ‘retention and graduation of a diverse student body.
2. A review of activities in place to foster progress of the other indicator areas, to identify any gaps.
3. A plan for obtaining more pertinent data to improve the measures associated with some of the indicators

Action. In response to the high priority given to the retention/graduation indicator, the Cabinet commissioned the IMIR office to develop a report that focuses on retention and graduation rate ‘gaps’ at the school and major program level. Resources were provided to ensure that the report was conducted in a timely way so that the results were available to the Deans of the academic schools in the middle of the Spring semester. The report (available at: <http://www.imir.iupui.edu/infore/mi/Spring03/SGRR03.asp>) received considerable attention and was followed by requests for local presentation at several schools, as well as follow-up information requests to probe into certain findings. In addition, several measures included in the report will now be monitored annually as part of the indicator report.

A second action was the convening of the inaugural IUPUI Excellence in Diversity Conference, during which the indicators were used as a launching point for focusing program specific efforts on the broader campus goals. A third line of action involved the convening of a working group to review and revise the items related to campus climate for diversity included in the campus-wide surveys of students, faculty and staff.

Assessment. The Chancellor’s Diversity Cabinet continues to monitor implementation of actions taken in response to the first iteration of the diversity indicator process. The second iteration of indicator review will be conducted in Fall 2004. The current measures, with some

refinements as described above, will be evaluated to determine the level of progress in each area. The Cabinet will continue to review the actions taken to determine priorities for attention and resources.

Whereas the first two examples considered in this paper focused on specific programs, this last one related to a higher-level set of processes. As such, it provides insight into how the action research process can impact the domain of executive management. Within this domain, the connections between action and research are more diffuse and less direct. As a result, the action research process becomes more akin to a brokering role for facilitating organizational development and transformation (cf. Jackson, 2003).

Possible Barriers to The Action Research Approach

During the action research approach the researcher plays a facilitator role and becomes more intimately involved in the program/unit operations process as she or he seeks a greater understanding of the planning, implementation, and evaluation of the program or unit. On the other hand, the program administrator merges into playing a “researcher role” as she or he participates actively in making decisions about research questions, methodology, instrumentation, analysis and deployment. As the traditional roles of the program administrator and researcher change during the unfolding of the action research approach, both parties may experience role stress in the forms of role ambiguity, role conflict, and role overload.

Role ambiguity results when individuals do not have clear information regarding their job expectations and when there is lack of clarity concerning job tasks, role function, and rewards (Rizzo, House, and Litzman, 1970). A second form of job role stress that may be experienced by researchers and their counterparts as they transition into their new action research roles is role conflict. Role conflict results when there are simultaneous roles occurring at the same time and

when the occurrence of one role makes it difficult to comply with the other. For example, a researcher may feel her role in designing and reporting on a valid instrument to measure program outcomes may be in direct conflict with the motivation of a program administrator to deliver good news to the campus community about the program's outcomes. A third form of job stress that may surface during the action research process is role overload. Role overload occurs when there is a perception that too many tasks are required and there is insufficient time to fulfill job requirements. In addition to having to fulfill daily job demands, during the action research process program administrators and institutional researchers may be given supplemental responsibilities. For example, program administrators may be asked to help design assessment instruments and researchers may have to attend unit/program administration meetings during the multiple stages of the action research model. It is possible that both parties may feel increases in their work demands due to the time commitments required by the action research approach. .

It appears that action research participants may have adverse reactions as they must cope with ambiguous responsibilities, increased work demands, and role conflicts. These work role perceptions may serve as barriers to implementing effective action research strategies as participants experience stress and in turn feel less commitment toward accomplishing the tasks associated with active participation. Thus, the successful implementation of action research necessitates that intentional steps be taken to help minimize the potential occurrence of these adverse reactions.

According to Nadler and Shaw (1995), the organizations that will thrive in the next decades will be those that continually enhance their capability to learn and to respond quickly to changing external and internal environmental conditions. The change management literature has distinguished between different types and degrees of organizational change. Generally two types

of change are articulated: incremental and discontinuous. Incremental change typically involves more gradual change and involves making changes in existing programs processes and programs. In contrast to incremental change, discontinuous change involves “a complete break with the past and a reconstruction of almost every element of the organization” (Nadler & Tushman, 1995, p. 22). Depending on the results of the action research process, it may be necessary to implement either incremental changes in program processes or more frame-breaking changes in organizational structures and missions.

Arygris and Schon (1996) contend that individual learning will ultimately serve as the fundamental basis for sustained organizational learning and transformation. They propose an action-science intervention in which individuals’ defensive routines and ineffective thinking are directly addressed and are replaced by new ways of thinking and acting in ways that promote learning. Almost parallel to the distinction between incremental and discontinuous change, Arygris and Schon distinguish between single-loop and double loop learning. Single-loop learning occurs when participants try to increase organizational effectiveness by changing their actions rather than changing the values and assumptions underlying the actions (more aligned with incremental change). In contrast to single-loop learning, double-loop learning refers to changes in the underlying assumptions and values themselves, which in turn lead to fundamental changes in behaviors (more aligned with discontinuous change).

According to Seo (2003), there are three barriers that may seriously inhibit the action-science approach and in turn serve to limit learning and change: emotional barriers, political obstacles, and managerial control imperatives. Seo argues that it is critical to focus on removing emotional barriers because some individuals may be unable to cope with negative emotions and defensive when facing threatening information or inquiry and thus are unable to achieve double-

loop learning (change in underlying values and assumptions). Political coalitions can become barriers to translating individual and group learning into organizational level learning and change unless the individual actors “both understand the underlying political dynamics within the organization and have adequate strategies to overcome them” (Seo, 2003, p. 12). Seo also argues that learning may not contribute to fundamental behavioral and organizational change because the larger socioeconomic system shapes organizational functioning and may exert enormous pressure and “control” over managers. We propose that these three barriers may also serve to limit participants’ learning during the action research process and proposed changes following the initial action-research stages.

Overcoming Barriers to Implementing the Action Research Approach

We contend that in order to effectively implement the action research method, intentional efforts must be exerted to overcome the following potential barriers to participants’ learning and programmatic change: work role stress, emotional barriers, political obstacles, and managerial control imperatives. Role ambiguity may be minimized by beginning the process with clear descriptions of role expectations, duties, and potential rewards. Additionally, establishing an atmosphere of trust and on-going open communication may also collectively serve to decrease participants’ feelings of uncertainty. This open communication strategy coupled with consistently providing clear task guidelines may also serve to reduce feelings of role conflict. In order to reduce feelings of role overload it is important that participants be informed up-front regarding the work load demands so they can begin to plan for the level of commitment essential for a successful process. It may also be helpful to provide participants with a sort of cost-benefit analysis regarding the action research model. In other words, it may require

more time, energy, and commitment, but they may ultimately result in fundamental sustained program improvements and even long term fiscal benefits.

Seo (2003) recommends three ways to overcome each of his proposed barriers: up-building positive affect, leveraging opposing forces, and bringing external legitimacy to the organization. In up-building positive affect, Sue advocates for starting with a single-loop, win-win approach prior to engaging in the more distressful double-loop learning and actively overcoming negative emotions by actively and genuinely accepting them. Effectively overcoming political obstacles may require actively seeking an understanding of political dynamics and intentionally using them in both discussion and action planning. He also suggests that employing external consultants may be a useful strategy for overcoming managerial control imperatives as illuminating the external reality helps to provide a legitimate impetus for new directions.

Conclusions and Implications

The action research model is offered as an alternative to the traditional applied research model. We argue that the cyclical and participatory processes associated with action research are effective mechanisms for facilitating fundamental change and linking research results with on-going improvements. Given the need for on-going assessment activities and large-scale change in many higher education settings, this paradigm may be an essential component for the institutional researcher's tool bag.

The action research model changes the relationship between researcher and program administrator. It introduces a higher level of collaboration, with both parties taking on responsibilities for each other's work more so than they might under a more traditional model. The relationship may be uncomfortable for researchers who seek to remain removed from the

roles and responsibilities of the administrator. Similarly, it may be uncomfortable for the program administrator who does not want to be bothered with the technical and methodological details of research. This level of discomfort is directly related to resistance to change, which, after all, is what action research is all about. Although the action-research approach has the some potential barriers associated with it such as role ambiguity, role conflict, political barriers, we offer ways to effectively minimize these barriers so that effective organizational learning and change can occur.

The proposed paradigm is likely to have a variety of practical implications as it provides a useful framework for planning and implementing successful participatory program evaluations. Effective change management programs and, on a broader scope, institutional transformations necessitate key stakeholder participation and support. The interaction, dialogue, and collective critical inquiry fostered via the action research process is likely to result in genuine commitment and support for essential program and institutional changes. This paper presents an effective approach for capitalizing on technological advances in institutional research departments by demonstrating that action research is an effective approach for facilitating use of critical data

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Appendix

Table 1. The Action Research Paradigm Contrasted with the Traditional Information Support Paradigm

Traditional Information Support Approach	Action Research Approach
Research Question and Evaluation Focus	
“Given” to researcher either as a top-down directive, or a bottom-up request. There will often be some discussion to clarify the question and the context for use.	Developed together between researcher and stakeholders (information requesters). The questions and focus are often deferred until appropriate vested parties are brought together as a team to consider the issues and possible spheres of influence that the research results can impact.
Data Collection	
Researcher responsible for finding available information and collecting new information where needed. Researcher ultimately held accountable for integrity of information.	Stakeholders often have some role in collecting data or in working with researcher to understand nuances of available information. Responsibility for integrity of data is shared.
Data Analysis and Interpretation	
Researchers often entirely responsible up through dissemination. She or he may consult with stakeholders to gain insight into the results.	Researcher involves stakeholders in stages of data analysis. Preliminary results presented and discussed. Further analyses shaped by those discussions.
Report Presentation and Dissemination	
Researchers prepare and often present results to stakeholders.	Presentation and report writing responsibilities shared by researcher and stakeholder representatives. Presentations involve more discussion compared to traditional approach.
Follow-up	
Some additional analyses may be requested or perhaps some clarification. This often is the end of the process	Key stakeholders design an action plan based on results. Data collection included in follow-up plan so that actions can be monitored and evaluated for effectiveness. Further lines of inquiry established for next cycle of research.