Action Inquiry Model (AIM) to Improve Outreach and Academic Success

A Guide for Campus AIM Teams

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Executive Summary

Most colleges and universities face challenges with respect to improving outreach to underrepresented high school students and academic support of students who do not fit existing programs and majors. Based on experiences with assessment and intervention, this guide has been developed to accompany workshops for faculty, administrators, and students who seek to become actively engaged in reform initiatives. The Action Inquiry Model (AIM) for improving outreach and academic success include four stages:

- **Assessment**: Using research and experience to identify critical challenges facing the university with respect to the improvement of educational opportunities.
- **Organization**: Developing workgroups to collaborate on initiatives that address critical challenges; providing financial support for new initiatives; and providing release time and professional development opportunities for faculty and staff who engage in reform initiatives.
- **Action Initiatives**: Treating reforms as pilot tests of new strategies, as a means of promoting organizational learning, professional development, and student success.
- **Evaluation**: Integrating the evaluation of current programs and incorporating new initiatives into the reform process.

The core of the AIM method involves work groups in action initiatives focusing on critical challenges. The key tasks in an action initiative reform process include:

1. **Build an Understanding of the Challenge**. Consider why the challenge exists. What solutions have been tried in the past, and how well did they work? What aspects of the challenge have not been adequately addressed? What aspects of the challenge require more study? Develop hypotheses about the causes for the challenges using data to test the hypotheses. Do the explanations hold up to the evidence? What more preparation might help students in your major programs?

2. **Look Internally and Externally for Solutions**. Talk with people on campus about how they have addressed related challenges. Consider best practices for retention and how they might be adapted to meet local needs. Visit other campuses that have tried out different approaches to the problem. How well would these alternatives address the challenge at your campus?

3. **Assess Possible Solutions**. Consider alternatives in relation to the understanding of the problem. Will the solutions address the challenge at your campus? How can the solutions be pilot tested? How will the solutions be evaluated?

4. **Develop Action Plans**. Action plans are needed to address the implementation of potential solutions. Consider solutions that can be implemented by current staff. If there are additional costs, develop budgets, but be aware that seeking additional funds can slow down the change process. Develop action plans with time frames for implementation and evaluation.
5. Implement Pilot Test and Evaluate. Provide feedback to workgroups and campus coordinating team. Use evaluation results to refine the solution. Evaluation can also be used as a basis for seeking additional funding from internal and external sources.

Providing professional development opportunities for faculty and staff engaged in action projects is a high priority of the AIM process. This guide should be used as an integral part of workshops that support teams engaged in major initiatives.

References Informing AIM


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Introduction

The Action Inquiry Model (AIM) is designed as a process-oriented, research-informed change process that colleges and universities can use for: 1) assessment leading to the identification of critical challenges, especially those related to academic success for high school students who aspire to gain entry to college and already-enrolled college students and; 2) organization of teams to address critical challenges through initiatives aimed at addressing these challenges; 3) engagement in the action initiative reform process aimed at addressing the challenges related to improving access and academic success; and 4) targeted evaluation of the interventions on, the challenges identified, and the solutions proposed and tested to refine and improve interventions and academic programs. This guide builds on understandings reached in a multi-year project, the Indiana Project on Academic Success, funded by the Lumina Foundation and Indiana University.

Interested readers can find out more about the research base for this guide, including the planning studies for IPAS (St. John & Wilkerson, 2006) and findings from assessments and interventions (St. John, in press; St. John & Musoba, in preparation). These readings are not necessary to use this guide. Rather this guide is intended to be used as part of workshops focusing on improvement of outreach and academic success in higher education.

The Action Inquiry Model (AIM) has four stages that can be integrated into ongoing strategic change efforts at college and university campuses:

**Stage 1 Assessment**
Analyses of academic preparation, enrollment, major choice, and persistence by college students, supplemented by campus level analyses, provide a basis for campus level assessment. Campuses identify specific challenges they will address during the project.

**Stage 2 Organizing**
Campuses appoint workgroups to address critical challenges. The AIM project team organizes support for statewide efforts and campus inquiry.

**Stage 3 Action initiative reform process**
The workgroups on each campus develop action plans to address critical challenges, pilot test solutions, and collaborate on evaluations. The AIM project team provides support for campus change processes.

**Stage 4 Evaluation**
The AIM project team and the campuses collaborate on the design and completion of evaluations of the interventions.

The Campus Action Inquiry Model (Figure 1) illustrates the role of assessment, organization, and action initiative reform process, each of which are described in this guide, along with guidance in evaluation. The evaluation process should be integrated into the entire campus inquiry model and practitioners should consider the role of evaluation at the outset of the change processes.
This guide should be introduced through a workshop process that engages participants in review, discussion, and reflection on shared issues of concern on their campus or that involve their campus and partner organizations. It is often appropriate to begin the AIM process with evaluations of existing interventions, especially at campuses with extensive ongoing activities that promote outreach and academic success. Colleges and universities that collaborate on AIM projects engage students, faculty, and administrators in reform activities that involve:

1. Time be provided to work through problems identified at specific points in the process. The AIM guide can be used as part of a comprehensive change process focusing on improvement of outreach and student success.

Sources: St. John, McKinney, & Tuttle, 2006
AIM Campus Coordinating Teams
A coordinating group on each campus will be responsible for conducting assessments, coordinating workgroups, communicating with the administration, and participating in planning and budgeting on campus.

AIM Workgroups
Each campus should conduct organizational workgroups comprised of faculty and administrators to engage in action inquiry aimed at addressing challenges considered critical on the campus.

Collaboration on Planning, Budgeting, and Evaluation
The AIM project team provides technical support for institutional research and other project activities, including numerous training sessions and workshops. The campuses are responsible for coordinating with the AIM project team for planning, budgeting, and institutional research on the campus.

The project involves a comprehensive set of activities, as outlined in Figure 2. Workshops and technical support are provided to partner campuses as needed to support their reform efforts.

Figure 2
Overview of the Stages in the AIM Process

| Stage 1 Assessment | • Compare campus assessment information to state and national research; identify possible challenges.  
|                    | • Collect additional information from campus sources, such as prior reports and studies and focus group interviews.  
|                    | • Organize teams of administrators, faculty, professional staff, and students to identify critical challenges on the campus.  
|                    | • Prioritize the challenges, identifying two or three that merit special attention at a campus level.  
| Stage 2 Organizing | • Coordinate the assessment and inquiry process with campus-level planning and budgeting; integrate the challenges with strategic plans; coordinate budgeting to provide necessary support.  
|                    | • Appoint workgroups to address critical, campus-wide challenges; consider providing release time to team leaders to work on tasks for the campus.  
<p>|                    | • Coordinate the inquiry process (activities of the workgroups) with campus planning and budgeting. |</p>
<table>
<thead>
<tr>
<th>Stage 3</th>
<th>Each campus workgroup engages in a process to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action initiative reform</td>
<td>1. <em>Build an Understanding of the Challenge.</em> Consider why the challenge exists. What solutions have been tried in the past, and how well did they work? What aspects of the challenge have not been adequately addressed? What aspects of the challenge require more study? Develop hypotheses about the causes for the challenges using data to test the hypotheses. Do the explanations hold up to the evidence? What more preparation might help students in your major programs?</td>
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<td></td>
<td>2. <em>Look Internally and Externally for Solutions:</em> Talk with people on campus about how they have addressed related challenges. Consider best practices for retention and how they might be adapted to meet local needs. Visit other campuses that have tried out different approaches to the problem. How well would these alternatives address the challenge at your campus?</td>
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<td></td>
<td>3. <em>Assess Possible Solutions:</em> Consider alternatives in relation to the understanding of the problem developed in Stage 3, step 1. Will the solutions address the challenge at your campus? How can the solutions be pilot tested? How will the solutions’ effectiveness be evaluated?</td>
</tr>
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<td></td>
<td>4. <em>Develop Action Plans:</em> Develop Action Plans. Action plans are needed to address the implementation of potential solutions. Consider solutions that can be implemented by current staff. If there are additional costs, develop budgets, but be aware that seeking additional funds can slow down the change process. Develop action plans with time frames for implementation and evaluation.</td>
</tr>
<tr>
<td></td>
<td>5. <em>Implement Pilot Test and Evaluate:</em> Provide feedback to workgroups and campus coordinating team. Use evaluation results to refine the solution. Evaluation can also be used as a basis for seeking additional funding from internal and external sources.</td>
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<table>
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<tr>
<th>Stage 4</th>
<th>The campus AIM coordinating teams:</th>
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<tbody>
<tr>
<td>Evaluation</td>
<td>• Use evaluation to launch assessment and inquiry</td>
</tr>
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<td></td>
<td>• Coordinate implementation and evaluation, review plans, encourage presentations to campus planning groups, and help coordinate the inquiry process with campus planning.</td>
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<td>• Coordinate evaluation support of pilot tests with the AIM project team and campus groups.</td>
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Stage 1: Assessment

The Process

Campus AIM teams are responsible for coordinating the assessment process on campus. This process involves:

**Briefings**
Provide briefings on the AIM process, using the Resource Guide and other information. PowerPoint presentations are available from the AIM project team. Also, members of the campus coordinating teams and workgroups can conduct site visits to provide briefings.

**Coordination of Research**
At the initial workshop, campus coordinating team members discuss critical issues on their campuses and talk to representatives of other campuses about shared concerns.

**Coordination of Assessment**
Engage academic units and service units in a review of state-level and campus-level assessment results. Make sure to provide each group with results of National Survey of Student Engagement (NSSE), Cooperative Institutional Research Program (CIPR) and other assessment information.

Research that examines the academic progress of students—preparation, enrollment, major choice and change, academic achievement, and persistence—is crucial to the assessment process. Ideally the institutional research office in colleges and universities will have conducted analytic studies before the outset of the project. This research can help inform workgroups that focus on identifying challenges limiting opportunities for students.

The assessment process should involve diverse groups on each campus. At the conclusion of the assessment process, it is crucial that campus coordinating teams communicate the membership of workgroups to the AIM project staff. The roles and responsibilities of various administration units on campus are summarized in Figure 1.1.
**Figure 1.1**
The AIM Assessment Process
Roles and Responsibilities in Campus Assessment

<table>
<thead>
<tr>
<th>Roles</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td><strong>Institutional Research Offices</strong></td>
<td>Possible activities in support of assessment process:</td>
</tr>
<tr>
<td></td>
<td>• Provide reports related to issues being considered in the AIM process.</td>
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<td></td>
<td>• Conduct special studies addressing issues in depth.</td>
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<tr>
<td><strong>Academic Units</strong> (departments, schools, faculty committees)</td>
<td>Review results of statewide analyses of major choice, college persistence, and persistence within majors. Consider implications for the campus programs.</td>
</tr>
<tr>
<td></td>
<td>1. What academic programs face critical challenges considering the number of majors and/or persistence?</td>
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<tr>
<td></td>
<td>2. What role does academic preparation play in the choice of major?</td>
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<tr>
<td></td>
<td>3. How do students in your department compare to students in the state with a similar major?</td>
</tr>
<tr>
<td></td>
<td>4. How well do students in your major programs persist compared to students statewide?</td>
</tr>
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<td></td>
<td>5. How well are the freshmen in your program prepared academically?</td>
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<td></td>
<td>6. How does academic preparation influence persistence by students in your major?</td>
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<tr>
<td></td>
<td>7. Do remedial courses enable your students to perform better?</td>
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<tr>
<td></td>
<td>8. What additional preparation might help the students in your major program?</td>
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<tr>
<td></td>
<td>9. What do students say about your major? Does it meet their expectations? Do they see employment opportunities?</td>
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<tr>
<td></td>
<td>10. Based on these results, are there alternative academic strategies (courses, course sequences, field experiences) that should be considered by the faculty in your program?</td>
</tr>
</tbody>
</table>
| **Service Units**  
(admissions, student aid, retention, etc.) | Examine campus and state assessment results to discern what they tell you about the challenges facing students.  
1. How do the students on your campus compare to the statewide information?  
2. From the statewide assessment and campus information, how would you describe the profile of your students?  
3. What factors appear important in attracting students to similar campuses?  
4. What variables related to programs, academic achievement, and student aid are related to persistence on your campus? How do the campus results compare to the statewide results?  
5. What additional information do you need about your students? Are reports already available that can be provided by your campus IR office or AIM?  
6. What are the most critical challenges facing your campus with respect to recruitment and/or retention?  
7. What do students tell you (in surveys and focus groups) about their engagement on campus (e.g., NSSE, CIRP and other surveys)? Does this information square with the assessment results?  
8. What additional information would you like? |
|---|---|
| **Campus Conversations**  
(facilitated by campus coordinating team) | After initial assessment activities, form groups representing academic units, student services, and institutional research to discuss what you have learned.  
Based on reflections about both academic and student support, identify one to three challenges that are cross cutting, problematic, and merit sustained attention by teams of faculty and staff. |
The assessment process involves analyses of student outcomes along with institutional databases. The statewide changes identified in Indiana were similar to findings from national studies, as noted below. Campuses varied in the challenges they identified from campuses analyses, review of documents, and discussion of issues as understood locally. Research universities, other public universities, and two-year colleges attract student with different characteristics and therefore face different challenges.

What are the Big Challenges?

As part of the Indiana Project on Academic Assessment, St. John and Musoba (Pathways to Academic Success: Preparation, Finances, and Student Outcomes for Indiana’s Millennial Cohort) completed an assessment of challenges. This study was conducted using the Indiana Commission for Higher Education’s Student Information System (student records for college students) and College Board data from the SA questionnaire for high school students in the class. The study team also completed assessment studies for public and private colleges participating in the project. The major challenges that emerged are similar to those evident nationally:

1. **Academic Preparation for All Students**: Most states face critical challenges with respect to academic preparation during high school, especially for low-income students. Indiana had a history of requiring all high schools to offer college preparatory curriculum; providing addition funding to high schools for students who completed a college-preparatory program; and providing a guarantee of full grant aid (scholarship equaling tuition) for low-income students who take the steps to prepare. Research evidence indicates these policies substantially improved the odds low-income students would reenroll in college, including four-year colleges. This evaluation research indicates these strategies should be integral to outreach at public universities that aim to improve preparation for low-income students. Most states have not taken steps to ensure that all high schools have college preparatory courses. While Indiana had policies requiring all high schools to offer college preparatory courses, there were still great disparities. Therefore, colleges and universities faced the challenge of improving preparation as a means of ensuring diverse enrollment. In most states, high schools serving mostly low-income students lack advanced preparatory courses in math and other subjects critical for college. College universities that aim for a diverse student body drawn from within their states should assess the status of high school preparation of high schools that serve low-income students in the areas they serve. Colleges and universities can collaborate with high schools to deliver necessary curriculum.

2. **9-14 and the Community College System**: There is an increasing emphasis in the literature on educational opportunity to increase the percentage of students who attain at least two years of colleges. Some groups have advocated making two-year degrees a basic standard for all students. The analyses of enrollment, persistence, and other outcomes using Indiana databases found significant differences in prior preparation of students who enrolled in two-year colleges compared to their peers in four-year colleges. The studies found that students with less academic preparation, lower grades and lower test scores went to two-year colleges, a finding similar to national studies. If the US is to be successful in expanding opportunities for postsecondary education to all students, new patterns of access will need to be developed within different regions of states. In Indiana,
there are community college campuses and regional campuses in relatively close proximity to most communities. It is possible to build easy transitions from high schools into colleges. The constraint could be organizational as much or more than academic. Not only are community college campuses in different organizations than high schools, but they have different funding sources. Students are expected to pay their own way to college, supplemented by financial aid if they have need, while high schools provide free education. Strategies for enabling smooth transitions between high school and college merit attention across states. It is crucial that a student’s ability to pay be considered as an integral part of this process.

3. **Racial Inequality in Educational Opportunity**: Racial inequality in educational opportunity is a challenge that is increasingly difficult to discuss openly in public settings. Nationally, during the mid 1970s, there were nearly equal college enrollment rates for African Americans, Hispanics, and whites who had graduated high school, but gaps opened in the 1980s that have persisted for nearly three decades. The shift in enrollment rates was related in part to the decline in the purchasing power of Pell grants, and unequal implementation of high school reforms may have contributed to the problem. In Indiana, there were differences in enrollment in four-year colleges that persist, controlling for SES, preparation and other factors. In these statewide analyses, African Americans were less likely than whites to enroll in four-year colleges and to persist. A paper was written addressing issues related to the challenge; the findings indicated differences in within-year persistence across different fields and challenges in STEM fields for African Americans. The studies also found that having made a major choice was positively related to persistence by whites, but having declared STEM and business majors was a barrier to persistence for African Americans. This suggested that interventions were needed within the programs that served these students. IPAS hosted several statewide meetings on this topic, because teams from other campuses considered it an important issue as well. By the end of the first year of the project, this was no longer a challenge, except on one campus, where it proved difficult to retain the focus on minority student success. Colleges and universities face critical challenges in promoting opportunities for minorities within STEM fields, business, and other fields that rely heavily on prior preparation.

4. **Regional Campuses and Opportunities for Working Students**: The challenge of providing educational opportunities for working students emerged very early in the assessment process in Indiana. The statewide assessment of academic progress by the 2000 cohort was presented; concerns about adult students were immediately expressed by representatives of community colleges and regional campuses. Additional analyses were completed for persistence by adult students, and many campuses requested persistence analyses inclusive of adults. It became evident that at the regional campuses many of the traditional age students departed and many of the graduates were older than traditional college age. In addition, many of the students at community college were returning adults. These conditions captured the interest of administrators and faculty at some of the regional campuses. For many college students in Indiana, there was an apparent aversion

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to loans, as illustrated by the negative relationship between loans and degree attainment. There was also a clear pattern of preference among many students to enroll in locale colleges and to work, rather than to incur debt. There was evidence of a new working class that finds debt an unacceptable method of paying for college.

5. **Major Choice and Degree Attainment:** The theory of the educational pipeline, as applied to STEM fields, provides a focus for reform in K-12, community colleges, and public universities, a position advocated by the Commission on the Skills of the American Workforce and other groups. The Indiana study further confirmed underlying propositions in this line of public advocacy. High school courses in math were associated with high SAT scores; requiring more math and raising math standards in high schools were associated with higher test scores; completion of a college preparatory curriculum was associated with enrollment in four-year colleges and choice of STEM majors; and college preparation was associated with college attainment. However, there were also two patterns that did not fit with the strict pipeline model. More than a third of the transfers was from four-year colleges to two-year colleges and more than 40% of the students who started college as majors in math/science fields changed their majors by the start of their third year of college. The Indiana research also found that many students with undeclared majors dropped out during their first two years of college. It was also evident there was extensive change of majors across fields.

6. **Making Changes and Creating Pathways:** The pipeline model of education has limitations because it overlooks the many diverse and divergent ways that students make choices and change their minds as they learn more about themselves during college. Not only is there substantial departure from college, there is also substantial transfer between four-year and two-year colleges, and many students change majors across fields. It is important for more professors and administrators in higher education to ponder the reasons students are unsuccessful in their classes and academic programs. Why do so many prepared students depart from college? It was apparent from the Indiana study that there was tension between the codified structure of academic organizations and the complex ways students come to understand themselves as young adults. Students experienced problems fitting into the academic structure. Upper division students were faced with the choice of major. Most campuses offered an option for individuals to design their own major, but did too little to facilitate this choice. It is during the second two years that students begin to define their future pathways. They define their own interests and combine courses and work experiences in ways that enable movement toward their own goals. In other words, it is important to create pathways for students who do not fit the prescriptive pipeline. Overemphasis on the pipeline can distract creative attention from creating new pathways. Creating academic communities that are engaging for students remains a critical challenge in universities. In many research universities, including Indiana University and the University of Michigan, most undergraduates are admitted as undeclared students. Students may meet qualifications to get into majors in business and other fields. They may lack the grades to get into their desired major and face the choice of transferring or selecting a major of less interest. Finding new ways to combine courses for students who seek new learning opportunities is critical.

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3 Within field major change—like change from political science to sociology, or from chemistry to physics—was not counted as major change in our analyses.
Stage 2: Organizing

The organizing stage of the AIM process involves developing organizational strategies on campus to address the critical challenges identified in the assessment process.

The organizing process includes four key tasks:

- **Task 1** Develop a campus strategy for coordinating AIM.
- **Task 2** Organize AIM workgroups for each critical challenge.
- **Task 3** Appoint AIM fellows to provide support to the campus and coordinate with the AIM project team.
- **Task 4** Establish a procedure for coordinating workgroups with campus planning and budgeting offices.

Each campus must develop its own, unique organizational strategy. The purpose of the AIM project is to provide support—through research, opportunities for professional development and collaboration—that enables and facilitates campus development. Given this purpose, each partner campus should tailor a strategy for AIM that complements its organizational strategy.

Organizing Task 1
Develop AIM Project Campus Coordination Strategy

A team of four people from the campus were invited to participate in the initial AIM workshops. They were introduced to the AIM organizational strategy and encouraged to coordinate a process of buy-in and assessment. Members of this team could form the core of a coordinating committee for the campus, but there are other alternatives including using a campus planning group.

However the campus decides to organize to address the critical challenges, it needs to have a strategy for coordinating its campus change process with the university governance process.

There are several key issues to consider in the development of a strategy for coordination.

*It is crucial that members of the AIM campus coordinating team be familiar with AIM methods.* If the membership of the coordinating group changes, additional training support should be requested to introduce AIM methods to the new members of the team.

*The members of the team should have linkages to the campus governance structure,* including planning and budgeting processes, student services, academic units, and so forth. While not all units on a campus can participate in the coordinating team, it is critical that members of the coordinating team be aware of the timeframes for the planning and budgeting process on campus, campus decision processes for academic programs, and so forth. This type of connectivity will enable the coordinating committee to guide an integration of the AIM inquiry process with the campus governance process.
The members of the campus coordinating team should facilitate action initiative reform processes. If due to scheduling problems they cannot attend, a member of the AIM project team can conduct briefings on the inquiry process, or people who have attended workshops can provide these briefings. At the very least, it is important to build a shared understanding among workgroups and the coordinating team members about the role of action initiative reform process.

The AIM coordinating team should establish a plan for coordinating the activities of workgroups with other campus governance processes. Efforts should be made to inform planning groups and budgeting committees about the progress of the AIM workgroups.

The campus coordinating team for AIM should plan to work together during most of the project period. It is possible that a central group could take on this responsibility. Some campuses may have groups currently coordinating innovative strategies that might be able to take on the AIM project as an integral part of their responsibilities.

Whether a new group is formed—and the four people that attended the workshop continue in their role—or another campus coordinating group takes responsibility for the project, it is crucial that the AIM team:

- **Meet routinely**, ideally monthly, to review the progress of work groups.
- **Maintain communication** with the AIM project team, using the AIM webpage and information dissemination as resources and by distributing information from AIM to interested faculty, staff, and students.
- **Facilitate the inquiry process** of workgroups on campus, checking frequently to see if they have met, if they face challenges that might require outside support, and so forth.
- **Facilitate involvement of campus members** (faculty, professional staff, and students) who might be interested in professional development opportunities provided by the AIM team, partner campuses in AIM, and other opportunities that can strengthen your campus’ capacity to address critical challenges related to improving campus success.
- **Help find funding**, if needed, for action experiments (pilot testing new ideas) by workgroups.
- **Coordinate communication** of evaluation results of experimental activities with campus planning groups as a means of promoting informed planning, budgeting, and development activities on campus.
Organizing Task 2  
Organize AIM Workgroups for Each Critical Challenge

The challenge areas should be:

- **Issues that are of concern to** more than one unit on campus and crosscut the responsibilities of academic, student services, and auxiliary units (such as housing),

- **Issues that require local action** and for which an “off the shelf” solution does not appear adequate,

- **Topics which draw sufficient interest** for a sustained commitment to an action initiative reform process focused on designing local experiments to address challenges.

The *AIM workgroup* for each challenge may be an existing task force or workgroup on campus, an entirely new group, or even a subcommittee of a campus-wide committee, task force, or workgroup. Each workgroup should include:

- **Individuals who are familiar with the challenge** and are members of units (academic or service) that might be involved in addressing the issue,

- **One or more faculty members who are interested in the challenge** as an academic interest, out of concern for college students, and/or because the students in their program are confronted by these challenges,

- **One or more student services personnel who have frequent contact with** students and bring a first-hand understanding of the issue to the group,

- **One or more students who are actively engaged in student affairs** and who might be able to use their experience in the project for course credit (service learning or internships),

- **One or more members of administration or faculty** who are familiar with the interpretation of research, have an understanding of IR on the campus, and have in interest in research on college students.

The campuses should coordinate the appointment of members to and organization of AIM workgroups with the organizational structure of the campus. It is important to consider how to work within existing structures as well as how to work across structures. Therefore in some instances a workgroup might include representatives from the campus as a whole, forming a group with a campus-wide focus. In other instances a workgroup might include members from an organizational unit, such as a professional school within a large university (see examples in Text Box 2.1).
**Text Box 2.1 Examples of Organizing Strategies.**

**Example 1 Large University Campus**

A campus with a retention task force could use that unit as a coordinating team, creating subcommittees to focus on specific issues, such as retention of students in upper division and/or retention of minority students. A professional school facing a critical challenge that requires collaboration across the campus and even off campus might use this model.

A School of Education at a large university might decide to focus on the recruitment and retention of students in high school education programs (especially math education). To address this challenge, the campus might form a workgroup composed of representatives from the school (faculty, professional staff, and students) and representatives from affiliated units (professional development schools and the university math faculty).

**Example 2 Community College**

A community college campus might choose to address the challenges of developing support services for students; creating professional development opportunities for faculty and profession staff; and providing support for transfer to and from four-year colleges, possibly through joint enrollment. Each of these teams might need to be constructed differently.

If the campus is rapidly developing, it might lack an established pattern of committees and workgroups. In this case, an effort might need to be made to form new groups drawing members from the committee.

**Example 3 Small College**

Many small colleges have leadership teams that coordinate with planning and budgeting groups. These campuses may already coordinate strategic planning efforts. As a part of strategic planning, campuses organize to address issues of central importance to the campus. The challenge areas of AIM should be closely linked to the strategic planning process at such a campus.

The AIM process should provide support (in the form of research and professional development) that is organized to facilitate change and improvement in areas related to recruitment and retention, professional development for faculty, and collaboration with other colleges and universities in Indiana. One or more challenges related to these topics could be the focus for workgroups. In some instances, current workgroups might want to use the AIM process to address particularly critical challenges.
Organizing Task 3
Appoint AIM Fellows

In the proposal for AIM, an option was created to provide an opportunity for one or two people from each campus to work in collaboration with the AIM team at Indiana University on the AIM project, conducting studies or collaborating on projects that would support their own campus.

Faculty members and/or professional staff from collaborating campuses are invited to participate with the AIM team as colleagues concerned about improving academic success in Indiana higher education and as contributors to the academic and professional literature in this field.

As part of the appointment, fellows will have the opportunity to engage in a range of activities.

- **Work with the databases assembled for the AIM project**, conducting studies that would be of interest to their campus.

- **Develop student surveys or focus groups on critical issues** at the campus in collaboration with the campus IR office and the AIM project team.

- **Develop databases that could be used in support of planning and budgeting** on the campus in collaboration with the campus IR office and the AIM project.

- **Collaborate with members of the AIM project team and/or faculty in schools and departments** on professional development workshops for their campus and/or AIM partner campuses.

- **Take courses in higher education, completing advanced qualification (degree certificate)** in institutional research, action inquiry, higher education or courses related to sabbatical and/or professional interest.

- **Participate in and contribute to the research-based dialogue** about strategies for improving academic success, the core and central concern of the AIM project.

Fellows should have space to work with the AIM team if their interests focus on professional development. In addition, fellows would work directly with members of the AIM project team in support of other projects for their own campus.

The primary criteria for selecting AIM fellows are that they be:

- **Faculty members or professional staff** who can benefit from an intensive period of professional development and who have an interest in college students and higher education.

- **Individuals who are aware of the strategies being used for AIM** on the campus and have ideas about projects they might undertake that would be supportive of their campus’ efforts to address critical challenges.

- **Other members of campus AIM workgroups** who might conduct research in support of their project.
Individual arrangements should be made within administrative and academic units regarding release time for faculty and staff to engage in innovative activities. Faculty who take on these responsibilities should have a reduced course load, as well as the opportunity for professional development. These professors should be encouraged to write academic papers on their applied research. Workshops and courses on action inquiry or topics in higher education should be made available to staff taking on these roles. AIM fellows should encourage workshops for other faculty to encourage dissemination of their findings.

Organizing Task 4
Coordinate Workgroups with Campus Planning and Budgeting

If the AIM project is to be successful on your campus, workgroups need to engage in intensive study of critical challenges by trying new approaches to address those challenges. The underlying methodology of the project involves creating structures and processes that promote organizational learning through ongoing improvement and professional development. As noted above, it is crucial that your campus establish a mechanism to support and learn from the inquiry process.

The workgroups should be trying new solutions to old problems, enabling new forms of practices to be tested on campus. We hope new strategies evolve for each campus that are distinctive and merit ongoing support. There are three general types of successful outcomes from the action initiative reform process:

- Workgroups might try out new approaches to teaching or service that can be integrated into academic programs and student services at little additional cost to the campus, such as innovations that involve changes in practice and culture.

- Workgroups might try out an approach that will merit a redirection of funding, changing a current strategy at the campus—an approach that might involve providing professional development opportunities for existing personnel or even hiring new personnel (a level of funding that can be realized through careful budgeting, possibly coupled with strategic incentives in the budgeting process).

- Workgroups might come up with tested ideas for fundamentally new approaches or major new initiatives that merit consideration by trustees and external funding agencies, or that may merit inclusion in the campus development campaigns.

It is expected that initiatives recommended by workgroups will have been tested, at least in an initial “try out,” to see if the idea works at your campus. However, when bold new ideas emerge, the campus administration needs to be prepared to work on strategies for funding. If this requires new internal budget allocations or if external funds are needed, it is important that this process be followed with active interest by the AIM campus coordinating team, and that periodic updates be given to central planning and budget groups.
Stage 3 Reform through Action Inquiry

The AIM workshops on the action initiative reform process introduce members of the team to the stages of inquiry and provide opportunities to explore the meaning of core elements in the reform process. This section of the AIM Resource Guide provides an overview of the process and addresses related organizational issues.

*Action inquiry should be conducted by workgroups organized to address challenges.* Workgroups are comprised of faculty, professionals, and students who have an interest in addressing a critical challenge of common concern. Some members of each team may have professional responsibilities in organizational units involved in addressing the challenges. Others will have knowledge and skills that relate to the specific challenge area.

Each of the five tasks in the action inquiry process is introduced below, with examples to illustrate the use of the methodology.

**Inquiry Task 1**
**Build an Understanding of the Challenge**

Why does the challenge exist? What solutions have been tried in the past and how well did they work? What aspects of the challenge have not been adequately addressed? What aspects of the challenge require more study? Develop hypotheses about the causes for the challenges using data to test the hypotheses. (Do the explanations hold up to the evidence?)

It is often assumed that once a challenge is identified it is relatively easy to find a solution. In fact, some members of your committee may believe they know the best solution to the challenges your campus faces based on their experience or their understanding of best practices or research literature. However, we issue the following alerts:

- **Beware of jumping to conclusions too soon.** If a problem is system-wide it has existed for a long time and may be resistant to commonly accepted solutions.

- **Analyzing the problem is critical** if your workgroup has been given a major challenge, it is best to start by analyzing the problem. Why did the challenge emerge in the first place?

- **It is necessary to tackle the underlying problems or causes** to provide solutions that are most likely to address the challenges facing your campus will.

- **It may take several attempts to “try out” possible solutions** before your workgroup has a well-grounded understanding of the problem, why it is a problem, and how academic and service units can best organize their programs to address the challenge.

We issue these alerts to let you know that the inquiry process is not simple. It involves hard work, reflection, and collaboration. The goal of the inquiry process is to build a shared understanding of why the problem exists in the first place. We suggest a four-step process, as outlined in Figure 3.1.
<table>
<thead>
<tr>
<th><strong>Figure 3.1 Inquiry Task 1: Build an Understanding of the Challenge</strong></th>
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</table>

<table>
<thead>
<tr>
<th>Questions</th>
<th>Information Sources</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| **Step 1**  
Why does the challenge exist in the first place? | • Campus studies and reports  
• Reflections and observations (yours and others’)  
• Analyses by your IR office  
• Analyses by AIM project team | • Review of available evidence: Compile studies and reports that relate to the possible explanations for the challenge.  
• Brainstorming: Early in the process the workgroup should brainstorm possible answers to the question. After freely listing possible answers, consider how they relate to the evidence.  
• Focus groups or interviews, as needed. |
| **Step 2**  
What solutions have been tried in the past?  
How well did they work? | • Existing programs and practices (documents, interviews)  
• Review of evaluations  
• Conducting evaluations | If the challenge you face is a long-standing problem, there probably have been previous attempts to address the challenge.  
When reviewing current and past practices, consider:  
• How did this program get started?  
• Did it work well in the past?  
• What aspects of the program currently work well and which ones do not?  
There may be a great deal of information available for your workgroup to review. After a review of the evidence, consult with your IR office and/or the AIM project team about getting assistance with evaluation processes. |
**Figure 3.1 Inquiry Task 1: Build an Understanding of the Challenge, cont.**

<table>
<thead>
<tr>
<th>Questions To Organize Inquiry</th>
<th>Information Sources</th>
<th>Strategies</th>
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</thead>
<tbody>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
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</tbody>
</table>
| What aspects of the challenge have not been adequately addressed, and why? | • Interviews and/or surveys on campus which ask the tough questions in respectful ways  
• Workgroup’s analysis of the data and reflections on possible explanations (from Step 2) | The workgroup should go through the data, assembling a workable explanation for the problem.  
• How has the definition of the challenge changed over time?  
• How have past interventions influenced the understanding of the problem?  
• What aspects of the challenge are currently being addressed?  
• Which aspects are not being addressed?  
• What should be addressed?  
• How should the explanations for the underlying reasons for the challenge be reformulated? |
| **Step 4**                   |                     |            |
| What aspects of the challenge require more study? | • Additional data collection  
• Workgroup’s deliberations and reflections | • Identify solutions being used elsewhere (other campuses) and in different places on campus.  
• Identify alternatives that you would like to learn more about.  
• Develop hypotheses about the causes of the challenge and how it might be addressed.  
• Develop a plan for investigating possible solutions |

Often the tough issues on a campus have been extensively studied in the past. Often too, there will have been past efforts to address the challenge. The goal of the process outlined above is to build a grounded understanding of the problem as situated on your campus. At this point your workgroup should be ready to explore new options, learning from the experiences of others.
Inquiry Task 2
Look Internally and Externally for Solutions

Talk with people on campus about how they have addressed related challenges. Consider best practices related to the challenge, and how they might be adapted to meet local needs. Visit other campuses that have tried out different approaches to the problem. How well will these alternatives address the challenge at your campus?

As part of the process of building an understanding of the challenge, the workgroup will have developed a shared understanding of the campus’ historical experience with the problem, how it has been approached in the past, and how it might be approached in the future.

With this common understanding, the team is ready to look at the literature on best practices and related research literature, with an explicit focus on what practices are likely to address the challenges that appear central to your campus.

Faculty and professional staff are frequently involved in professional organizations that study issues related to access, retention, professional development, and other critical challenges facing college and universities. There is extensive descriptive information available on best practices and a few studies that actually test the results of these studies.

The process to identify alternative practices is outlined in Figure 3.2. This stage in the inquiry process involves looking at what works elsewhere, but using your insiders’ knowledge—and especially your shared understanding of the problem—to make informed judgments about possible next steps. Replication may be a high form of praise, but given the great diversity in institutions of higher education, there is reason to question whether models can be adapted from one locale to another without adaptation to meet local needs.
Figure 3.2. Inquiry Task 2: Identify Alternative Solutions

<table>
<thead>
<tr>
<th>Steps</th>
<th>Strategies</th>
<th>Deliberations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Identify solutions that you would like to learn more about.</td>
<td>- Review the literature. &lt;br&gt; - Call colleagues. &lt;br&gt; - Search the Web. &lt;br&gt; - Talk with AIM partner colleges. &lt;br&gt; Build an understanding of the solutions that merit consideration and the strategies that might address the challenge.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Identify places where these solutions are being tried, or literature describing where they have been done in the past.</td>
<td>- Develop a list of questions to ask. &lt;br&gt; - Identify a list of campuses to visit or call. &lt;br&gt; Learn all you can about alternative solutions. What will meet local needs?</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Conduct campus visits or telephone interviews to learn more about the options.</td>
<td>- Review how well alternatives have worked elsewhere. &lt;br&gt; - Share what has been learned. &lt;br&gt; Consider these questions: &lt;br&gt; - What are the key features of these solutions? &lt;br&gt; - How are the features aligned with the challenge as you define it? &lt;br&gt; - Will any of these solutions address the problem your campus faces?</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Identify ideas for possible solutions internally, reflecting on what you have learned from other campuses, your own experiences, and the literature.</td>
<td>- Share what you have learned with others on campus. &lt;br&gt; - Seek input into the workgroup’s preliminary solutions, and consider how they might be tailored to meet local needs. &lt;br&gt; Critical challenges can be addressed by adapting or modifying current practices. Based on what you have learned as a workgroup, consider alternative related changes in current practices and alternative practices that you might adopt from elsewhere.</td>
</tr>
</tbody>
</table>
Inquiry Task 3
Assess Possible Solutions

Consider alternatives in relation to the understanding of the problem developed in Task 1. Will the solutions address the challenge at your campus? Do you need more data? How can the solution be pilot tested? If you tried the solution, how would you know if it worked? What information would you need to collect to know how well it worked?

As a result of studying campus history and looking for possible solutions, workgroups should identify a small set of possible solutions. On a large university campus, many different solutions can be adopted by academic and service units, providing a “cafeteria” of services for students. However, on small campuses each solution requires careful thought, especially if funding for innovations is limited. In either environment, it is important to filter through possible solutions, using available information to analyze what might work. The goal is to identify a few options that merit further study, testing in practice. Figure 3.3 provides an overview of the steps in this process.

**Figure 3.3. Inquiry Task 3: Assess Alternative Solutions**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Strategies</th>
<th>Deliberations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong>&lt;br&gt;Consider solutions (in relation to your understanding of the challenge).</td>
<td>• Assemble information on alternatives from multiple sources (visits, calls, and the literature).&lt;br&gt;• Develop a systematic approach for assessing links between features of solutions.</td>
<td>Consider these questions:&lt;br&gt;• Did the solutions link to the challenges in the ways you had hypothesized?&lt;br&gt;• Did the solutions actually address the problem in the cases studied?&lt;br&gt;• Is there research literature to support your conclusion?</td>
</tr>
<tr>
<td><strong>Step 2</strong>&lt;br&gt;Will the solutions address the local challenge?</td>
<td>• Summarize the evidence.&lt;br&gt;• Reach a shared understanding in the workgroup about how the solutions relate to the problem.&lt;br&gt;• Present analyses of alternatives to AIM campus coordinating group.&lt;br&gt;• Consider how well evidence addresses the questions asked by external groups.</td>
<td>The workgroup should assess how well the alternative solutions might address the solution. Presenting the analysis to other groups on campus, including the campus coordinating group, provides further insight into your understanding of the problem and the workgroup’s analysis. Based on feedback, it may be appropriate to reanalyze the solutions or even consider other solutions.</td>
</tr>
</tbody>
</table>
### Figure 3.3. Inquiry Task 3: Assess Alternative Solutions

<table>
<thead>
<tr>
<th>Steps</th>
<th>Strategies</th>
<th>Deliberations</th>
</tr>
</thead>
</table>
| **Step 3**  
What solutions merit testing on campus? | Based on the evidence, pick a solution or a few solutions to pilot test. | Given the central role of the workgroup in testing solutions, it is crucial they select alternatives they would like to try out. Based on feedback from presenting their ideas, they should consider the types of evidence they would need to confirm or disconfirm the workability of the solution. |
| **Step 4**  
What can be tested? | Design experiments (local tests of the solution, possibly with a control group). In the design of the experiment, consider how the solution relates to the challenge. | The pilot tests of alternative solutions need to be carefully planned. *Example:* Alternative approaches to instruction can be tried out in some classes and compared to others. |
| **Step 5**  
What information would you and others need to know in order to assess whether the solutions addressed the challenge? | The design of the experiment should include collection of information that can be used for evaluation. Consult with the AIM project team, as appropriate and needed, on designs of experiments and evaluations. | When planning for an experiment, consider:  
- Information routinely collected by the campus  
- Additional information needs (surveys and other sources) |

Action research involves experiments in actionable situations. Rather than moving from intervention to intervention, the purpose of action experiments is to build a deeper understanding of professional practice and to engage faculty and professional staff in the process of experimenting in practice as a means of professional development and community building.

The design of action experiments is a critical aspect of the action inquiry process. Well-designed action experiments can be documented in ways that enable practitioners to communicate their findings to potential funding agencies, both internal and external. Therefore it is critical that plans for action experiments include designs for evaluations, along with plans for the pilot test.
Inquiry Task 4
Develop Action Plans

Action plans should address the implementation of solutions that should be pilot tested. Consider solutions that can be implemented by current staff. If there are additional costs, develop budgets for consideration internally and externally. (Remember, seeking additional funds can slow down the change process.) Develop action plans with time frames for implementation and evaluation.

The pilot testing of potential innovations is the core element of action research. Well-designed experiments can be published in journals on teaching in all fields of inquiry. Engaging faculty and professionals in the process of testing alternative solutions through action experiments can enhance the level and quality of discourse in departments and professional units.

The action plan for an experiment may require review within the organization, not only for human subjects approval (an important step if the workgroup members seek to publish the results), but also by campus administrative groups if additional funding is needed. Guidelines for action planning are presented in Figure 3.4.
### Figure 3.4. Inquiry Task 4: Develop Action Plan for Experiment

<table>
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<tr>
<th>Steps</th>
<th>Strategies</th>
<th>Deliberations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong>&lt;br&gt;Identify solutions that can be tested.</td>
<td>Develop an experimental (or quasi-experimental) design for a pilot test, involving practitioners who will try out the solution.&lt;br&gt;Find collaborators for research (e.g., IR office, AIM team, faculty on campus).</td>
<td>Consider how the experiment will be conducted, whether there is a “control” group.&lt;br&gt;Those engaged in the experiment should develop designs for review by the entire workgroup and the campus coordinating team.&lt;br&gt;Evaluation should be integral to the design (and coordinated with the AIM project team to ensure adequacy and communication of results).</td>
</tr>
<tr>
<td><strong>Step 2</strong>&lt;br&gt;Develop budget proposal if additional funds are needed.</td>
<td>In the organizing process, the campus coordinating team and campus budget authorities should have established funding parameters.</td>
<td>Finding means of supporting faculty and other professionals represents an important issue.&lt;br&gt;External funding should be sought in advance if internal university funding is not available.</td>
</tr>
<tr>
<td><strong>Step 3</strong>&lt;br&gt;Develop Evaluation Plan</td>
<td>The evaluation design should be developed in parallel with the finalization of the implementation plan.&lt;br&gt;The evaluation should document the ways in which the intervention addresses the issues that were considered critical</td>
<td>Note: See section 4 for guidance on evaluation design and methods.</td>
</tr>
<tr>
<td><strong>Step 4</strong>&lt;br&gt;Finalize action plan.</td>
<td>A schedule should be developed for implementation of each pilot test and for the evaluation of the interventions.</td>
<td>Consider the time frames for implementation, including coordination with other administrative processes, along with the collaboration of external evaluators.</td>
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</table>

Each campus should develop a review process for experiments. It is important to build a professional development culture among professional staff and faculty that supports innovation. Action experiments represent an integral part of creating a culture of innovation.

It is important to communicate about the results of action experiments within the administrative structure of the college and university. The AIM coordinating team should be integrally involved.
in the review of action plans, seeking funds for experiments as needed, and communicating results within the institution, especially as they can inform institutional planning, research funding, and development campaigns.

**Inquiry Task 5**

**Implement Pilot Test and Evaluate**

Provide feedback to workgroups and the campus coordinating team. Use evaluation results to refine the solution. Also, evaluation can be used as a basis for seeking additional funding from internal and external sources, to the extent that additional revenues are needed to fully implement the solution.

The workgroups should use the results of experiments as a basis for communicating within the university about strategies for institutional improvement. The plans for action experiments should include the design of the project; methods for implementation; people responsible for activities in the implementation; and evaluation plan.
Stage 4: Evaluation

Introduction

Evaluation has three specific functions: 1) it is an essential part of all four stages of AIM; 2) it is a stage in and of itself; and 3) it acts as a cyclical agent that allows the model to turn back on itself, making the evaluation the assessment in the next iteration of the process. Evaluation is a vital component to the success of the project, facilitating the usability of the model in the production of actionable knowledge. Figure 4.1 illustrates how evaluation fits into the various tasks of AIM.

Figure 4.1. Role of Evaluation in AIM

<table>
<thead>
<tr>
<th>Stages</th>
<th>Key Tasks</th>
<th>Role of Evaluation</th>
</tr>
</thead>
</table>
| Stage 1: Assessment | • Identify possible challenges  
• Collect and analyze data  
• Prioritize challenges  
• Organize work groups | • Identify critical success indicators (CSI) for challenges (outcome measures) |
| Stage 2: Organizing | • Coordinate budgeting to provide necessary support  
• Appoint AIM Scholars  
• Coordinate inquiry with campus planning and budgeting | • Identify targets of opportunity for improvement |
| Stage 3: Action initiative reform | • Each campus workgroup engages in a process to  
1. Build an understanding of the challenge  
2. Look internally and externally for solutions  
3. Assess possible solutions  
4. Develop action plans  
5. Implement pilot test and evaluate | • Design interventions and evaluations  
• Use evaluation methods that provide information about critical success indicators |
| Stage 4: Evaluation | • Campus teams coordinate implementation and evaluation, providing reviews of plans, encouraging presentations to campus planning groups, and facilitating coordination of the inquiry process with campus planning  
• Coordinate evaluation support of pilot tests with AIM teams and campus groups | • Consider implications for planning, budgeting, and practice in future years |
Integrating Evaluation into the Inquiry Process

The Indiana Project on Academic Success emphasized an evidence-based decision-making process as workgroups identify challenges and evaluate possible solutions. Throughout this process, even when a solution was selected, AIM emphasized an inquiry approach, advocating testing rather than a premature decision on one solution. Evaluation is an integral part of any pilot test or new campus intervention proposed by the campus teams. Any implementation of an intervention to address student success needs to include evaluation in relation to the initial critical challenge. To this end, the AIM project team and participating campuses collaborated on the design and completion of intervention evaluations.

Inquiry emphasizes a learning, experimental environment that values pilot testing and knowledge building over simple program success or failure. An unsuccessful intervention is seen as a learning experience rather than as a failure that must be covered up. Even a successful intervention can benefit from adjustments. The attitude of inquiry values a legitimate attempt to try out a new service model, even one that did not improve student success. Evaluation is experienced as an opportunity to learn how to improve services to students rather than as a professional threat. Because the critical success indicators are important to the university, even when programs are not as effective as hoped the university is still concerned about this aspect of student success and will continue to attempt to address the challenge. The integration of evaluation of current projects into the action initiative reform process is illustrated in Figure 4.2.
Figure 4.2. Role of Preliminary Evaluation in the Inquiry Process: The Short Loop Through Inquiry
Evaluation Tasks

The following section of this manual expands on tasks that are part of the evaluation process. These tasks are as follows:

**Task 1** Define the research/evaluation question and coordinate with the AIM project’s overall evaluation.

**Task 2** Select a research design option.

**Task 3** Choose a data collection method and collect the data.

**Task 4** Analyze the data.

**Task 5** Disseminate the results to campus planning groups and possibly a wider audience.

**Task 6** Use the evaluation results in an inquiry process to fully implement, alter and implement, or not to further implement the pilot-tested intervention.

Evaluation Task 1

**Define the research/evaluation question and coordinate with the AIM project’s overall evaluation.**

The definition of the evaluation question or the desired outcomes will have already been considered in the assessment process when the campus team identified and matched the *critical success indicators* (CSI) to their challenge(s), even if different terminology was used. CSIs demonstrate whether the goals have been met by measuring student performance, success, or progress. CSI results are the standard by which the program or intervention is judged.

When campuses have to make difficult choices about budget allocations and staff time, a documented relationship between the intervention and CSIs in terms meaningful to central administration is important for setting campus priorities. The general outcomes the campus team selects to measure in their evaluation, the CSIs, will often be obvious, for example, students’ higher grades or increased student retention. However, it is important to revisit and make concrete these previously discussed outcomes when planning an evaluation.

Because AIM is accountable to its funding agency for the effectiveness of the AIM project as a whole and for the success of the inquiry model, campus evaluations need to be aligned with AIM project evaluations. These evaluations will use the campus datasets and examine student persistence or a more appropriate student outcome in relation to the intervention the campus team uses. We are also able to link campus evaluations with the AIM database to help campuses, policy makers, other institutions, and AIM better understand interventions for student success (See Figure 4.3).
Figure 4.3 Evaluation Tasks 1: Define the research/evaluation question and coordinate with the AIM project’s overall evaluation.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>What is the outcome in our evaluation?</th>
<th>Consider</th>
</tr>
</thead>
</table>
|        |                                      | • What are our critical success indicators (CSI) and how will we know if we have succeeded?  
|        |                                      | • Do the indicators align with AIM variables? |

<table>
<thead>
<tr>
<th>Step 2</th>
<th>What is our primary goal?</th>
<th>Consider</th>
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</table>
|        |                          | • Do we need to document success to individuals outside of the workgroup, such as key administrators or potential funders? If so, a summative approach is appropriate.
|        |                          | • Is our goal to learn within our workgroup to improve our intervention? If so, a formative approach is appropriate. |

<table>
<thead>
<tr>
<th>Step 3</th>
<th>How will we measure our program and outcome?</th>
<th>Consider</th>
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</table>
|        |                                              | • What type of data can we collect?  
|        |                                              | • What do we want from AIM, and what data will we send to AIM? |

<table>
<thead>
<tr>
<th>Step 4</th>
<th>What other factors must we consider?</th>
<th>Consider</th>
</tr>
</thead>
</table>
|        |                                     | • What are the influences on our critical success indicators other than the intervention proposed?  
|        |                                     | • How can we “control” for them in our evaluation?  
|        |                                     | • Can AIM help?  
|        |                                     | • Do we want to use AIM data analysis? |
Evaluation Task 2

Select a research design option.

AIM emphasizes rigorous evaluation that provides useable information to campus workgroups no matter what type of research design is chosen. The most important aspects of design are an approach consistent with the needs of the campus and a method of evaluation appropriate for the research question (see to Figure 4.4).

There are a number of options for designing evaluations. AIM considers the four we describe to be on a continuum: experimental, quasi-experimental, targeted, and extant data. We are aware these categories are not completely distinct in practice. There is overlap between them, but we offer them in this way to illustrate the different types of designs available for your evaluations.

<table>
<thead>
<tr>
<th>Experimental</th>
<th>Quasi-experimental</th>
<th>Targeted</th>
<th>Extant Data</th>
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<td>⊳</td>
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<td></td>
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</tbody>
</table>

Experimental design is often popularly associated with the traditional hard sciences. It involves randomly assigning participants to treatment and control groups; other factors that may be related to the outcome are randomly distributed across the two groups. Those participants in the treatment group experience some intervention or service under evaluation while the control group of parallel participants does not receive the treatment. See Appendix A for more information.

Quasi-experimental design is often used when the researcher desires a more experimental approach, but the random assignment of participants is not possible. It is utilized when participants are placed or self-select into the treatment and control group in a nonrandom manner. The researcher then controls for factors known to be related to the outcome.

Targeted design is used when a specific program or population is the focus of the study. Campuses may want to explore the effectiveness of a particular program for a subgroup of students or learn more about a subpopulation on the campus. The research method and approach are designed around the population and the research questions.

Extant (existing) data design is used when it is the most practical way to acquire the information and good data is already available. In some instances, this is the only data available; in others, it can be a less intrusive and less expensive way to evaluate a program. The availability of existing data to some extent determines what questions can be answered, but the combination of new data with existing data can provide better evaluation.
**Figure 4.4 Evaluation Task 2: Select a research design option.**

When trying to select a research design it is useful to think about the questions in the following table. These considerations will help your campus teams determine which option would be most appropriate and relevant to your needs and uses.

<table>
<thead>
<tr>
<th><strong>Step 1</strong></th>
<th><strong>Consider</strong></th>
</tr>
</thead>
</table>
| What are our evaluation goals, and for whom? | • To improve the program/for our own learning and/or to enhance the program?  
• To provide information to audiences outside the workgroup? |

<table>
<thead>
<tr>
<th><strong>Step 2</strong></th>
<th><strong>Consider</strong></th>
</tr>
</thead>
</table>
| How important is methodology to the evaluation audience? | • What type of relationship needs to be established between the CSI and the intervention? Does it need to be causal?  
• What do we understand as evidence?  
• Do we value certain methods over others? |

<table>
<thead>
<tr>
<th><strong>Step 3</strong></th>
<th><strong>Consider</strong></th>
</tr>
</thead>
</table>
| What is most important? | • Is it the research question or the intervention design?  
• Think about the effect on the option chosen of what is most important |

<table>
<thead>
<tr>
<th><strong>Step 4</strong></th>
<th><strong>Consider</strong></th>
</tr>
</thead>
</table>
| What kind of evaluation design is practical? | • Is an experimental design with random assignments possible and ethical?  
• Do we have the skills in our workgroup or campus to use a specific design?  
• Can AIM help us use a design option?  
• Can we collect the data we will need for the design we want (skills, resources, time)?  
• What is our population?  
• Are we studying a self-selected subpopulation?  
• Is there existing data? |
**Evaluation Task 3**

**Choose a data collection method and collect the data.**

How the teams collect data for evaluation depends on the research question(s) and the guiding assumptions of your team members regarding what they believe constitutes evidence. Both dominant research paradigms, qualitative and quantitative, have advocates as well as detractors. It is not our purpose in this resource guide to participate in the debate surrounding these methods, but rather to promote the choice of methods appropriate to the research question. Both qualitative and quantitative approaches provide the means to answer your team’s questions. Appendix B offers a brief discussion of quantitative and qualitative methods. The data collection methods of the four selected research designs are displayed in Table 4.1. In addition, for those needing a refresher or who are less familiar with research methods, Appendix C offers a brief description of six common data collection methods (see Figure 3.4).

<table>
<thead>
<tr>
<th>Table 4.1. Research Designs and Data Collection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental</strong></td>
</tr>
<tr>
<td>Surveys</td>
</tr>
<tr>
<td>Observation</td>
</tr>
<tr>
<td>Interviews</td>
</tr>
<tr>
<td>Focus Groups</td>
</tr>
<tr>
<td>Document Analysis</td>
</tr>
<tr>
<td>Personal Narrative</td>
</tr>
</tbody>
</table>

**Figure 4.5 Evaluation Task 3: Choose a data collection method and collect the data.**

When deciding on a data collection method you may want to consider the following:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>What form of data would best answer our research question?</td>
<td>It is important to select a data collection method consistent with your choice of research design.</td>
</tr>
<tr>
<td></td>
<td>Which of the methods fits your research needs and constraints best?</td>
</tr>
<tr>
<td></td>
<td>Are students’ voices represented in the study?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do we need to do to collect this data?</td>
<td>Is data readily available and affordable?</td>
</tr>
<tr>
<td></td>
<td>Does the team have the time, skills, and resources to collect the quantitative or qualitative data?</td>
</tr>
<tr>
<td></td>
<td>Does data exist already?</td>
</tr>
<tr>
<td></td>
<td>How can AIM help with data collection?</td>
</tr>
<tr>
<td></td>
<td>Who will take responsibility for data collection?</td>
</tr>
</tbody>
</table>
Evaluation Task 4

Analyze the data.

This section introduces three underlying approaches in which data can be analyzed—the descriptive, the relational, and theory testing. The AIM perspective is that these three mediums for analysis lie along a continuum, founded on the belief that questions are appropriately and effectively answered in different ways. All three perspectives can be engaged for qualitative- and quantitative-focused studies.

**Descriptive analysis.** This form of analysis essentially describes the phenomena, people, places, and programs involved in the intervention. Quantitative work will present percentages, averages, and counts of set criteria. For example, a quantitative descriptive analysis of an academic advising program might describe how many advisors work how many hours; how many students they advise for how long; how many students of certain genders, ages, income levels, and ethnicities attend advising; and so on. Qualitative work will employ versions of Geertz’s (1973) oft-cited “thick description” to verbally describe what is observed.

**Relational analysis.** Testing relationships between different aspects of an intervention, event, or phenomenon is important to initially assess program effectiveness. Quantitative work, using statistical methods such as t-tests, z-tests, and correlations, will establish whether there is a relationship between two sets of numbers but cannot establish causality. For example, quantitative data from a new freshman seminar might test the relationship between class attendance and student performance. Depending on the method of data collection, qualitative work will evaluate relationships by various means such as the compilation of themes, comparisons, and contextualization. Qualitatively, the distinctions between descriptive and relational analyses are based on the interview questions and the replies of the participants about the “whys.” Basically, if you don’t ask, you won’t know!

**Theory testing.** Unlike both descriptive and relational analysis, theory testing can demonstrate that the relationships between different aspects of the study are causally related. Qualitative work tests theory through any of its methods. Theory testing is most useful at addressing the “why” of research questions. Quantitatively, theory testing and making causal claims require inferential postulation rather than simply descriptive statistics—and, to meet the highest standard, random assignment. In many ways, the analysis options and methods are determined in the prior tasks, but the consideration of a few questions here will finalize the decisions. When trying to decide which analysis option you need, the following questions might be useful:
**Figure 4.6 Evaluation Task 4: Analyze the data.**

<table>
<thead>
<tr>
<th><strong>Step 1</strong></th>
<th><strong>Consider</strong></th>
</tr>
</thead>
</table>
| What types of conclusions do we need? | • Is our goal to describe what is happening?  
• Do we want to interpret the intervention through relationships?  
• Do we want to know why something does or does not work? |

<table>
<thead>
<tr>
<th><strong>Step 2</strong></th>
<th><strong>Analyzing the data</strong></th>
</tr>
</thead>
</table>
| What do we do with the data? | In quantitative studies consider  
• How many variables will be considered in relation to the outcome?  
• Who has the statistical expertise to do the analysis?  
• Can AIM help with the analysis? |

| | In qualitative studies consider  
• What type of data do we have? Interviews, observations, etc.?  
• Will we use a version of thematic analysis to find or interpret meaning?  
• Are there consistent patterns between students, or are there subpopulation differences in the patterns?  
• Who has the research expertise to do the analysis?  
• How can the AIM team help? |
**Evaluation Task 5**

**Disseminate the results to campus planning groups and possibly to a wider audience.**

In this inquiry approach to campus change, the evidence and information are shared within the campus workgroup and beyond (see Figure 4.7). These steps may help think about this task:

- If the intention was formative, is there also value in distribution beyond the AIM workgroup and intervention staff?
- What are the implications for planning, budgeting, and practice in the next few years?
- How will the results be presented?
- How do the answers to these questions change if the results show no positive relationship between the intervention and critical student success indicators?

**Figure 4.7 Evaluation Task 5: Disseminate the results to campus planning groups and a wider audience.**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Who should receive the results of the evaluation?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consider</strong></td>
<td>your intervention and the groups on and off campus that might be interested in the results, such as</td>
</tr>
<tr>
<td></td>
<td>Campus administration</td>
</tr>
<tr>
<td></td>
<td>Budgeting office</td>
</tr>
<tr>
<td></td>
<td>Institutional research groups</td>
</tr>
<tr>
<td></td>
<td>An outside funding agency (if using a pilot intervention to get funding for a long-term project)</td>
</tr>
<tr>
<td></td>
<td>AIM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>What are the implications of the study?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consider</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Does it provide evidence of program success? This might contribute to ongoing funding and program support.</td>
</tr>
<tr>
<td></td>
<td>Will the evidence help planning, budgeting, and practice in the next few years?</td>
</tr>
<tr>
<td></td>
<td>What are the advantages of using an evidence-based method of inquiry? Will your inquiry efforts model new approaches for the campus as a whole that will be integrated into more effective approaches to change?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th>How do the answers to these questions change if results show no positive relationship between the intervention and critical success indicators?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consider</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is the useful information provided by the pilot test?</td>
</tr>
<tr>
<td></td>
<td>How will this test of the intervention help the workgroup and involved administrators for future planning?</td>
</tr>
<tr>
<td></td>
<td>Does the intervention need to change in some way?</td>
</tr>
<tr>
<td></td>
<td>Should it be cancelled and a new approach tested?</td>
</tr>
</tbody>
</table>
Evaluation Task 6

Use the results of the evaluation in an inquiry process to implement fully, to alter and implement, or not to implement further the pilot-tested intervention.

The ideal pilot test would be a great success, and the analysis would show a strong positive relationship with the critical success indicators. This would then result in full-scale implementation of the program, receiving strong administrative support and funding. Unfortunately, rarely is the world so tidy. It is more likely that the intervention will show only a modest relationship with your critical success indicators. This should not cause concern, as the evaluation will help involved staff and campus workgroups with ideas about how the program could be improved as they will probably be highly invested in keeping the program and continuing to help students (see Figure 4.8).

The evaluation becomes the assessment data for another cycle through the inquiry process. While AIM sees itself as temporary, it is the hope of the AIM staff that the workgroups continue to engage in inquiry and pilot testing until the critical challenge is addressed. If the challenge is indeed critical, one cycle through the inquiry process may not be enough. When the pilot test does not have the desired results, it is even more essential that the workgroup (probably the campus experts on this particular challenge) use the evidence and further inquiry to try again. However, the evidence from the first cycle should empower the workgroup to be seen by administrators as a results-oriented, effective team and free the workgroup to change the program rather than to rationalize it.

Figure 4.8 Evaluation Task 6: Use the results of the evaluation in an inquiry process to implement fully, to alter and implement, or not to implement further the pilot-tested intervention.

<table>
<thead>
<tr>
<th>Consider Where do we go from here?</th>
<th>Possible Actions If positive results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How do we use the intervention to help us continue to provide the best service we can for our students?</td>
<td></td>
</tr>
<tr>
<td>• Are there ways we should adjust the intervention to make it even better? If so, the evaluation should become the assessment data for another cycle through the inquiry process.</td>
<td></td>
</tr>
<tr>
<td>If negative results:</td>
<td></td>
</tr>
<tr>
<td>• Should we scrap the intervention and try a completely different idea? Remember the critical challenge still exists but continuing an ineffective program drains resources.</td>
<td></td>
</tr>
<tr>
<td>• Is there a way the intervention can be substantially changed that will make it effective?</td>
<td></td>
</tr>
</tbody>
</table>
Appendix A

Research Designs

**Experimental design.** Researchers who advocate experimental design maintain that, because the treatment was the feature that varied between the two groups, any change in the outcome is attributable to the treatment, and therefore causal relationships are assumed. Traditionally this approach has also maintained that because of the research controls, results are generalizable to other settings. Experimental design places a greater emphasis on random assignments of the population and must involve collection of new data. Experimental design emphasizes methodology over questions; therefore, some research questions cannot be answered with experimental methods. Experimental design usually uses quantitative methods of tests of significance. Although experimental design provides useful information, it often is not practical.

**Quasi-experimental design.** Sometimes participants in the treatment group are matched with participants with similar backgrounds in the control group. For example, in a treatment program for remedial students, the comparison group would be other students with weak academic preparation who did not take remedial courses, not the general student population. Quasi-experimental design provides actionable knowledge but does not make the same claims about generalizability. In quasi-experimental design, the research question is deemed important enough to study even when random assignment is not possible. Data is collected on the participants in the treatment and control groups. Quasi-experimental design is often quantitative, but can also be done qualitatively. Quasi-experimental design offers practical information and is often more feasible than experimental design in higher education contexts.

**Targeted design** is used when a specific program or population is the focus of the study. Data can be gathered from existing sources but evaluation usually means gathering more data to study in greater detail. There is a strong focus on why rather than simply whether a particular program is working. Targeted design can also include breaking down a particular intervention or program to determine which features are more highly related to the outcome and more likely to affect student performance positively. Targeted design can be done qualitatively or quantitatively. Targeted design provides usable information about the population studied but care should be taken in transferring results to groups not in the study.

**Extant data design.** The important consideration with using extant or already existing data is to develop theoretically based models that include relevant variables, not just every variable that is available. Extant data may be qualitative or quantitative. The results of evaluations using extant data are readily usable at the home campus and provide practical information for program change. AIM plans to use an extant data design as part of the overall evaluation and to evaluate each AIM campus program. These AIM evaluations would be useful to the campus workgroups.
Appendix B
A Brief Explanation of the Distinction Between Quantitative and Qualitative Research

Within the various design options, evaluators can collect either qualitative and quantitative data, or both. Quantitative data is evidence that is quantifiable or in numeric form, such as the number of occurrences, percentages, etc., which is usually analyzed using inferential statistics to make predictions or to draw conclusions about the population based on the analysis of the sample. A qualitative approach, in contrast, does not rely on numbers and statistics as a method of building theory and understanding. Instead, qualitative data is primarily text-based and is gathered through methods such as interviews, observations, case studies, or evaluations of written documents. Quantitative research generally emphasizes broad description, sometimes the prediction of values for the study population, while a qualitative approach may set out to achieve a deeper understanding of the nuances of a given circumstance, problem, or phenomenon. Scholars working within each of these research traditions approach their work from a range of perspectives.

Quality of research. Throughout the data collection process, evaluators must consider the quality of the data they are collecting. Using information from questionable sources or misinterpreting the data may lead to inaccurate conclusions and misinformation. Following are some questions that will guide evaluators in developing a quality study.

- **Do you have enough data?** Often, one source of information is not enough. The strength of one’s conclusions is increased when evaluators use various sources of information, or what is referred to as triangulation. One example of triangulation is the observation of an event and focus groups comprised of participants to evaluate the impact of a specific program.
- **Are you collecting data that will answer your questions?** It is critical to review a survey carefully to determine if it addresses the research questions guiding the study. Or, if one is conducting interviews or focus groups, ensure that the interview questions are based on the research questions. This also ties into the choice of data collection—is the chosen method (e.g., survey, focus group, observation) going to yield the most relevant data?
- **Are you collecting quality data?** Not all data is good data. Some surveys are reputable, and others have serious flaws that may impact the quality of the study. Ensure that you have the appropriate number of participants in the evaluation and that the sample is representative of the population of interest.
- **What are your biases and assumptions?** It is human nature to have biases and assumptions about human behaviors. However, as researchers, we must be cognizant of them and ensure that our biases and assumptions do not blind us from finding new insights. To keep our biases in check, it is helpful to collect multiple forms of data and to have others review our analysis.
Appendix C.1
Survey

Definition. A survey is a method of gathering specific information from a sample of multiple individuals. This “sample” is usually just a fraction of a larger population the researcher wants to study. Surveys allow for the collection of data from multiple individuals in a short time.

Purpose. Surveys are generally used to gather descriptive data or as a method of collecting data to be used within other research designs.

Population. Any person who has the information the researchers want to collect and analyze based on the research questions is a potential subject for data collection by survey.

How to do it. There are two approaches to survey research: utilizing surveys already developed and found to be reliable or developing one’s own. The implementation of an existing survey requires ensuring that the instrument chosen is appropriate for the research needs and the population to be surveyed. Finding just the right survey can be time consuming. Developing a campus-specific survey is an involved process that must go through the following stages to ensure the validity and reliability of the instrument:

1. During the design phase, researchers define the specific purposes and objectives of the research, which lead directly to what kind of questions are to be asked in the survey.
2. The researchers need to choose a data collection method for the survey: mail, telephone, personal interviews, or email, or a combination of these methods. Each collection method has advantages and disadvantages. The choice of method depends on factors including the purposes of the survey, the nature of the data to be collected, the cost and budget, and the size and characteristics of the sample.
3. The researchers then identify the general nature of potential respondents or the population with regard to the information they want to collect and select a sample. Different sampling procedures include simple random sampling, cluster sampling, and stratified random sampling.
4. The researchers design a questionnaire for the survey.
5. Questionnaires must always be pilot tested to make certain the questions are interpreted as intended.
6. The survey is conducted, and data is collected.
7. The survey data is analyzed, and the research results are formulated. Different analysis methods (quantitative or qualitative) are used in accordance to the questions asked and the nature of the data collected.

What it can measure. Survey results impart specific information—quantitative or qualitative, depending on your instrument—about those surveyed. The information about this sample of people can be used to make inferences about the larger like population. For example, through a survey of the involvement characteristics of a sample of first-year
students in a public university, one could estimate the overall engagement of first-year students in this university. Also, if adding academic performance questions to the previous example survey, one could draw some inferences about the correlation between engagement and academic performance. These results could be used to help design appropriate education policies to improve the academic performance of specific groups of students.

**What it cannot measure.** Surveys reveal phenomena and problems, but they do not give interpretations or reasoning unless participants are asked for them.

**AIM.** Surveying is a method that could be widely used in AIM research. For example, to better understand the persistence of students in a university, a survey (e.g., mail survey) could be conducted among dropout or transfer students. Information concerning these students and their opinions might reveal institutional problems related to their persistence as well as provide insights regarding the possible improvement of services and programs.

**Actionable knowledge.** Surveys are widely used to give a description of the whole population. They are also useful in revealing where general problems arise through an analysis of data patterns; for example, a correlation between the socioeconomic background of students and dropout rates. It is important for surveys to elicit participant perceptions and explanations for a challenge in order to provide actionable knowledge. Otherwise, surveys can be only descriptive.

**Evidence.** The data collected by surveys are considered to be research evidence.

**Generalizability.** The research results found in surveys can be generalized to the larger population with similar characteristics. Through proper statistical testing, one can determine if is likely that the population shares the same nature of data with the sample collected by researchers.

**Challenges.** One of the problems of surveys is the response rate. Low response rates undermine the validity of the research results because students who choose to respond may not be representative of the whole group. Researchers could increase the response rate in the survey by either showing consideration for the respondents (e.g., shorter questionnaires or inclusion of a self-postage return envelope), by offering some incentive for participation (e.g., a gift or cash bonus), or by being persistent (e.g., sending follow-up mails). The other problem of surveys is the validity of information reported by the respondents. Therefore, the design of questionnaires is very important in stimulating honest answers.

**Strengths.** Surveys allow data collection from a larger number of people than is generally possible when using personal interviews or some other methods. Surveys can gather multiple items of information that have been pretested, and can specifically ask for the same information in the same format from multiple participants. Surveys are impersonal and often anonymous, so the participant may feel more comfortable responding.
Principal Resources on Evaluation

Additional Resources on Evaluation
Appendix C.2

Observation

Definition. Observation is the intentional study of people and their behaviors by gathering impressions through all relevant human faculties, such as sight and hearing, for scientific or other purposes.

Purpose. To observe repeated patterns or trends that may guide researchers in 1) forging paths of action; 2) interpreting the actions and reactions of others; or 3) answering theoretical questions about the nature of human action, interaction, and society.

How to do it. There are both quantitative and qualitative observations. The two differ in the ways they observe as well as in the questions they ask. The former involves research designs aimed at standardization and control, paying careful attention to the precise definition and measurement of the variables. The latter involves the study of natural occurrences and the search for concepts or categories that appear meaningful to subjects, without being bound by predetermined categories of measurement or response.

There are several considerations in collecting observation data.

- Pre-observation. One must choose a setting; determine the way the observation will be conducted, and the role the observer will play in the event. It is up to the researcher if he/she will be an inconspicuous observer or a participant. It may be helpful to obtain information about the event and the expected participants.
- During the event: Take field notes to record the interactions of the participants, body language, feelings and insights of the observer, atmosphere, dialogue, and even the layout of the room or space.
- Post-observation: After the event, record any other recollections and thoughts about the observation.

What it can measure. Observers usually start from a very general open-ended search. Then, based on analysis of the data, they narrow and deepen their focus to form specific hypothesis questions and finally proceed to theory conceptualization which can be generalized to the population. The theory conceptualization could verify or replicate existing theories, or it could contribute to the discovery or formulation of new theories. For example, observations focusing on the phenomena of student engagement might generate meaningful theory conclusions regarding correlations between student engagement and ethnicity, student engagement and socioeconomic status, and so forth.

What is not measured? Observations offer facts rather than value judgments or participant interpretations. Qualitative observations cannot offer statistical evidence to confirm the significance of observed patterns or trends within a quantitative philosophical perspective. Observation will not measure what is not seen, heard, or otherwise sensed, etc.

AIM. Through observations, workgroups could find some recurrent patterns of faculty and student behaviors in certain contexts, such as library use, student services use, or faculty-student interactions. Observation can also be used to assess campus climate. Combined with theories from the literature, observations could reveal problems on
campus as well as illuminate ways to solve them. For example, if the researcher sees students at a popular tutoring center regularly displaying frustrated while waiting in line and then leaving without help, this might trigger further evaluation of the adequacy of the service.

**Actionable knowledge.** Observations can identify problem areas on campuses or strengths that should be replicated in other campus areas.

**Challenges.** Validity can be a challenge as the observers rely on their own perceptions for analyses. They are susceptible to bias in their interpretations of situations. Simply put, in spite of training, they may miss or misinterpret things. The transferability of research insights to a larger population is dependent on similarity of contexts.

**Strengths.** Researchers can collect information on interactive actions and behaviors within their natural context.

**Principal Resource**

**Additional Resources**
Appendix C.3
Interviewing

**Definition.** Interviewing is an interactive means of measuring or understanding the perspectives of other people in oral format.

**Purpose.** Interviews are used to ascertain answers to specific questions or to develop a dialogue to facilitate deeper understanding of situations, peoples, and cultures.

**Population.** Interviewing is an appropriate method when the population of available participants is small, topics are personal or sensitive, and depth of understanding is important.

**How to do it.** There are three main approaches to interviewing—structured, semi-structured, and unstructured. Structured interviews are based on a set of prepared questions. The format of these questions does not vary, with all participants responding to the same questions in the same order. The interviewer is to remain neutral and not guide the participant through responses. The semi-structured interview balances a need to know specifics with that of furthering understanding beyond a line of prepared questioning. The interviewer will have prepared questions that all participants may or may not be asked, and will engage participants in further dialogue depending on the answers given and the comments made. The unstructured interview is an open-ended dialogue with a few starter questions. Both semi-structured and unstructured interviews depend on the interviewer establishing rapport, gaining trust, and understanding the culture. Interviews can be done with an individual or with a group of participants. Group interviews can also be structured, semi-structured or unstructured in approach. As several individuals are simultaneously interviewed, the interviewer must possess good facilitation skills to make sure all present are included and that no individual dominates the group (see also, Focus Groups). Individual interviews can be conducted in person or over the telephone. The phone is often utilized for structured interviews, but if semi-structured or unstructured interview must be held over the telephone the interviewer must be sure to practice active listening skills to encourage and engage the participant.

**What it can measure.** Interviews can test assumptions and help researchers understand and explain “why” through more open-ended dialogue. Information from structured interviews can be used to measure specific things in a more quantifiable way, such as hours spent studying.

**What it cannot measure.** Interviewing cannot produce data on anything unasked or unanswered. Some researchers can find meaning in silences or questions that are avoided, but typically the data is limited to the actual dialogue, to what has been explicitly communicated. Interviewing cannot determine the truthfulness of participants’ answers.

**AIM.** Within the higher education setting, workgroups can use interviewing to find out why students/faculty/staff and administrators behave as they do and how they experience life at their campus. It provides actionable knowledge about the campus environment,
services, and personnel, and can tap into the voices of all constituents. Interviewing can supplement AIM research by providing contextual understanding to the data and by identifying what factors are making a difference. For example, if data show that international women are not doing well on your campus, listening to them discuss their experiences might illuminate why. Interviewing would be suitable for challenges that involve smaller groups of participants, where specific questions need to be asked (in a structured interview). It would also be appropriate where nothing is known about an issue and through a semi-structured or unstructured interview the participant is guided to contribute both questions and answers to the process.

**Actionable knowledge.** The provision of actionable knowledge for institutional change is dependent on the questions that have been asked and the structure of the interviews. These are balanced against the interests and biases of the stakeholders involved. For example, some traditional administrators might not wish to contribute money to a new intervention without numbers to bolster its case. However, voices of numerous students needing the intervention could be persuasive to others. The number of participants interviewed in a study needs to be taken into consideration when thinking about its appropriateness as an actionable method. Also, interviewing can be used to supplement quantitative research by providing an explanation for statistical findings.

**Evidence.** The voice of the individual constitutes evidence in interviewing and is understood as a version of truth. When analyzing these voices, researchers can use a thematic approach where consistency and contradiction between different participants is seen as evidence.

**Causal claims.** Questioning and dialogue between the interviewer and the participant can determine whether the participant(s) believe there is a cause-and-effect relationship in given contexts. For example, not only can the interviewer ask questions regarding causality, but participants themselves could offer causal claims about an intervention or situation and its effect on behavior.

**Generalizability.** Evidence found in interviewing and through the process of qualitative research can be used for transferring the experience of the few to the many, within a similar context or with similar traits. Using other data sources to verify conclusions, also known as the triangulation of evidence, will aid this.

**Challenges.** This approach can be time consuming—both in collecting and in analyzing the data. In structured interviews, studies can be negated if an interviewer does not adhere to the words and order of the questions, and if the interviewee avoids giving “unacceptable” answers. The issues of race, gender, ethnicity, and power are pervasively relevant in interviewing. The interviewer must be aware and responsive to these issues when planning, preparing, and engaging in the interviewing process.

**Strengths.** Interviewing is very effective at revealing and illuminating “why” and “how” questions about experiences, situations, and cultures.
Resources

Related. See Focus Groups.
Appendix C.4
Focus Groups

**Definition.** A focus group is an interview involving multiple participants at the same time.

**Purpose.** Focus groups are designed to generate “multi-voiced” data related to defined research questions. Also, focus groups allow researchers to observe the interplay and interaction of participants regarding a particular topic.

**Population.** The population for focus groups is identified as recruited or invited participants who share a commonality—either of experience (e.g., use of a program or service) or self (e.g., race, age, gender) who can actively and knowledgeably engage in the research question(s).

**How to do it.** Recruited participants should meet at a prearranged time and place convenient to those to be interviewed. The choice of venue should be made in consideration of the participants’ needs, possible concerns, and availability. The focus group interview itself should be a safe place for participants to discuss the chosen topic. The value of the focus group process is that one person’s responses may stimulate comments from other participants either to support or to contradict. Sometimes the dialogue will move into areas the interviewer did not anticipate, as the participants are the experts on their environment and experience. The researcher should facilitate what participants want to talk about in relation to the research topic. Data from focus groups can be both qualitative and quantitative.

**What it can measure.** Focus groups can produce data informing the researcher of the participants’ experiences, beliefs, values, opinions, and actions regarding the research question(s). Akin to interviewing, this qualitative data offers consistency and contradiction in the responses of those participating. “How” and “why” questions can be explored.

**What it cannot measure.** Focus groups do not measure an individual’s experience in depth and may not be appropriate for some sensitive topics.

**AIM.** Using focus groups as part of research or evaluation for AIM challenges might provide useful information in several different arenas. Just a few examples include exploring the success or limitations of current programs, assessing the need for new programs or interventions, considering information on campus climate, and defining the unique needs of different populations on campus. Focus groups can uncover complexities through their discussion that might not emerge in a one-on-one interview or survey.

**Actionable knowledge.** Focus groups produce many-voiced information that can provide actionable knowledge for institutional change. The method is such that participants can highlight what they believe is needed in services or programs, for example, or reveal problematic experiences that can be altered for others. Discussion
between participants can illuminate both problems and possible solutions. It can portray what participants think they need.

**Evidence.** The accounts of the focus group participants constitute evidence and are understood as versions of truth. As with interviewing, a thematic approach to data analysis is often used to discuss consistency and contradiction in the discussion. The way the participants interact, as well as what they say, can constitute evidence as it can reveal underlying issues.

**Causal claims.** Questioning and dialogue between interviewer and participants can determine whether they believe there is a cause-and-effect relationship in given contexts. For example, not only can the interviewer ask questions regarding causality, but participants themselves can offer causal claims about an intervention or situation and its effect on behavior.

**Generalizability.** Often, the goal of focus groups is to observe interactions among participants rather than to generalize findings to broader populations. However, evidence from focus groups might be used to develop what Stake (1995) calls *petite generalizations*, or generalizations that are tentative, localized, and constantly refined.

**Challenges.** The researcher needs to establish boundaries at the start of the interview concerning privacy and respect and ensure that participants know that all discussions will be confidential. The researcher should begin with open-ended, general questions to help the group feel comfortable before moving on to more specific questions. The researcher’s facilitation skills contribute to success of the group dynamics. It is the researcher’s job to ensure that no single person dominates the discussion and to elicit information from all participants. Ethical issues of gender, race, and age linked to creating an environment where all participants feel safe may be problems for the researcher.

**Strengths.** Through the interaction of participants, focus groups can get at the complexity of issues. Not only can the researcher gather data on what is said about the research topic but also on how the participants interact, offering another layer of meaning to the topic. Focus groups can be less time consuming than individual interviews and have the potential to involve varying numbers of participants. They are also ideal for helping the researcher understand issues through “how” and “why” questions.

**Resources**

**Related.** See Interviews.
Endnotes

While these tasks are all grouped together in the evaluation stage, it is inappropriate to think of evaluation as something completed after inquiry is finished. A strong evaluation will integrate the early evaluation tasks into assessment and inquiry.

The workgroup must choose either a formative or summative evaluation. If the goal is learning within the workgroup, formative evaluation is more appropriate. If the primary goal is to document success for audiences outside the workgroup, summative evaluation is most appropriate. A formative evaluation is designed to assess the usefulness of the intervention and to determine ways to improve the program. Formative evaluations serve the workgroup and others involved in the intervention. Formative evaluations might conclude that the intervention should be stopped and an alternative approach tried, might recommend an adjustment to the current intervention, or might conclude that the program is currently effective. When it is important to provide evidence to individuals or entities outside the workgroup, summative evaluation may be preferred. Summative evaluations are generally used to determine the success or failure of an intervention; to determine whether the intervention should be funded; or to report to an external entity such as an overseeing government agency, administration, or funding agency. For some campus teams, the central administration may also require summative evaluation to maintain staff assignments and funding.

One value of AIM evaluations for campuses is the strength of the theory-based models on which AIM is built. The workable models approach to institutional research (St. John, 1992) was developed to address some of the issues AIM campuses are facing and to provide usable information to inform strategic planning on campuses. AIM regression models are based on a workable models approach that adjusts for missing values in the data and simultaneously controls for other factors known to be associated with the outcome (see St. John’s “Workable Models for Institutional Research on the Impact of Student Financial Aid” in the Journal of Student Financial Aid, Vol. 22, No. 3, pp. 13-26 [1992]). These models have been tested through analyses with the statewide sample of Indiana students before doing campus specific analyses.

Campuses may use the AIM data analysis for their own evaluation purposes. These models will offer useful information in assessing the impact of the programs or interventions. Yet more than likely, in an inquiry framework, campus workgroups will find they want to supplement these analyses with additional data collection and analysis.


If the pilot test of the intervention shows no positive relationship with the critical success indicators, that is useful information for the workgroup and administrators for planning. It is important that the pilot test be seen as just that—a pilot test that can be cancelled or changed based on the evidence. An inquiry approach assumes negative results show the university where it needs to change and reallocate staff time and resources. If the critical challenge still exists, caring professionals want to invest in programs associated with student success and to know what does not work.