

Executive Summary

The Data Issues and Information Flow Task Force, established by President Christoph Kimmich, recommends the adoption of an action-oriented approach to address Brooklyn College's data issue and information flow challenges. This approach will yield some immediate results and will form the foundation for further enhancements. As more comprehensive information becomes available, the Task Force expects the campus community to become more involved in the process. This will provide the impetus that will enable us to maintain a level of continuous improvement as we begin to use information effectively in pursuit of the goals outlined in the Strategic Plan.

The Task Force concentrated on two distinct themes: data quality and data availability. Various examples of data quality and data availability are presented in this report. The *Data Quality/Data Availability Matrix* illustrates current structure and future practice.

Specific initiatives are currently underway. For example, a concerted effort is taking place to establish a plan for collecting alumni information. A sub-committee has been formed and has already identified numerous approaches to assemble this essential information. Information required for institutional grant applications is another critical area being addressed. Enrollment, student, faculty, and budget data are being reviewed, as well. This does not imply that each area is being looked at in isolation. Interrelationships are present and must be understood in order for information to be meaningful. Brooklyn College is a dynamic environment and must be explored accordingly.

The Task Force recommends that the Office of the Assistant Vice President for Budget and Planning, through the Office of Institutional Planning and Research, assume the leadership role in implementing this plan. Given appropriate staffing, this office will work with all constituencies to insure information needs are met --- within the budget constraints of the College. The development of an Institutional Research Data Base (IRDB) and a data dictionary will enhance data quality, and the development of an information-oriented website will enhance data availability. The office will also act as a clearinghouse to insure consistency, quality, and availability.

As with all other activities, the data issues and information flow effort must be regularly assessed. This report and the activities described herein are a starting point. In order to be effective, it is imperative that we have specific goals, build on successes, learn from failures, and continually modify our plan to match our changing environment. We must also recognize that everything cannot be accomplished overnight and if we attempt, or expect, to do everything at once, we will not succeed. Instead we must strive for steady progress and leverage our efforts in order to maximize our return. We recommend that the Assistant Vice President for Budget and Planning manages the process on a daily basis and the Task Force, or its successor, continues in its oversight capacity.

Task Force Members and President's Charge

President Christoph Kimmich established this Task Force (January 2, 2001) to make recommendations regarding available data and the appropriate distribution of that data.

The members of the Task Force are:

Dean Ellen Belton
Mr. Joseph Benedict
Ms. Denise Flanagan
Assistant Vice President Alan Gilbert
Professor Louise Hainline
Mr. Edward Leight
Dean Richard Pizer
Assistant Vice President Lincoln Sessoms
Assistant Provost Eric Steinberg

The charge to the committee was as follows:

- do an inventory, seeking to determine what data the College has now; who produces these data (and to what purpose), who has them in their possession, and to whom they are being distributed;
- determine what our institutional needs are; who needs what kinds of data to do the job; who gets data (and what kind of data) now, who doesn't but should;
- devise ways to make college data readily accessible (perhaps through a clearinghouse or other centralized mechanism);
- make recommendations on how to improve and facilitate the flow of information within the administration so that members of the administration are - and should feel they are - in the loop. *Information here is being defined not only as data but other college, university, or external materials.*

Summary/Examples of Problem

The Task Force had its first meeting on January 24, 2001. Each member gave examples of situations where they experienced the same problems identified by President Kimmich. The following is a summary:

➤ Data Quality

- Inconsistent information between departments --- Department A says enrollment is 15,087 and department B says enrollment is 15,389. *Which information is correct and who is reviewing it?*
- Inconsistent data between systems --- Department C requests address labels for current faculty and 10% of the mail is returned for bad addresses because Payroll is notified about address changes, but Human Resource Services is not. Therefore PAYsrs is updated and CUPS is not. *How do we synchronize data among systems?*
- Incorrect reports --- Department D says that Brooklyn College's ethnic breakdown is 80% non-white. *Who verifies methodology and results?*
- Poor input data --- Department E prepares a report on mean SAT scores that is overstated because some students had scores of 9900. *How do we insure valid data?*
- Poorly presented information --- Department F needs to look at various student demographic variables. They have a *10 variable by 8 variable* statistical report, but are unable to comprehend it. *Are the needs of different audiences considered?*
- Lack of confidence in information received --- Dean G receives a report from Department H. She does not use the information because she does not believe it is accurate. *How is credibility established?*
- Unclear data definitions --- Professor I asks for information on retention, but really needs information on persistence. *Is there a data dictionary and is the dictionary's terminology consistently applied?*
- Unclear data sources --- Professor J complains that Department K has more majors than are indicated in a printed report. The data source is the Show Registration File (which is static as of the 3rd week of classes). *Is information being understood in the appropriate context?*

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➤ Data Availability

- No central data/information repository ---- Department L needs information and does not know where to find it. *Why aren't users aware of where to locate information?*
- Run around ---- Department M needs some data and is shuttled from department to department. *Where does the buck stop?*
- Incorrect information is released to outside entities --- Department D mentioned above forwards the ethnicity breakdown to an outside entity and this information is published. *Why is information released before being reviewed for accuracy and consistency?*
- Users do it themselves --- Professor N needs grade information and must manually generate reports herself (and with staff that needs to be hired). *Why aren't resources and technology used more efficiently?*
- Duplication of effort --- Dean O needs retention information for Fall 1999 regularly admitted freshmen. Department P and Department Q both generate this information (often with different results). *Why is work being duplicated when the College has limited resources?*
- Lack of communication and cooperation --- Department R needs to work on a report for the Provost and is unaware that Department S has some key information needed for the report. *How can we establish a team environment?*
- Information overload --- Department T needs to find a list of the top 10 feeder high schools. They cannot quickly locate it in the 317 page document they were given. *Is information indexed and accessible?*
- Data timing --- Professor U is applying for a grant and needs information, but a lot of it is unavailable and needs to be generated. *Why isn't standard information automatically prepared and disseminated?*
- Non responsive departments --- Department V asks for a listing of graduate students by major and is told that they have to find the information themselves. *Who is responsible for producing information?*

Data Quality / Data Availability Matrix

		DATA QUALITY	
		<i>Low</i>	<i>High</i>
DATA AVAILABILITY	<i>Low</i>	No harm, no foul --- but this is still needed.	Needle in a Haystack
	<i>High</i>	Damage Control	Brooklyn College of the Future

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➤ Specific Examples

- Effective management and program planning are handicapped by the absence of data.
- Faculty attempting to write grant proposals are unable to obtain the background information required on the application, and therefore do not apply for the grants. The College risks losing faculty, who feel unsupported in their research endeavors, and losing revenue.
- Individuals are referred from department to department when trying to obtain information. The individual looking for the information gets frustrated and the departments answering the calls need to spend time trying to help the person.
- CUPS, the University's personnel system, and PAYsrs, the payroll system, are separate systems that do not communicate with each other. They contain similar data elements so there are often inconsistencies.
- Human Resource Services enters the same data in CUPS, IFAS, and HEPS. One system would eliminate redundancy and many inconsistencies.
- Student Life did not have a listing of the Prelude to Success students since they are Kingsborough students and are not listed in SIMS.
- There is no comprehensive list of employees because a Brooklyn College employee can be on the Brooklyn College tax levy payroll, the Graduate Center tax levy payroll, the Brooklyn College non-tax levy payroll, the Brooklyn College Foundation payroll, or the Research Foundation payroll.
- Accurate data on doctoral students working with Brooklyn College faculty are not readily available. This information assists in fund allocation.
- Standard baseline reports on students are not available, and faculty must spend a lot of time, often manually, to create them.
- Information on availability of faculty (teaching power) is difficult to obtain.
- Data on course cancellations and cross-listed sections need to be generated manually during registration.

Approach

The Task Force has begun to create strategies to directly deal with the various data issues and information flow problems. Instead of continued discussions defining the data problems, the Task Force decided to begin addressing challenges already identified. Initially, we considered the use of a survey. After further reflection, we decided this approach would take a considerable amount of time and yield a lot of pages, but probably not a lot of information. We would be no closer to solving the problems specified and survey respondents would have increased dissatisfaction. Initiating direct responses to acknowledged data issues would expedite the problem solving process and enable the institution to make immediate improvements. Once the campus community sees changes taking place, more individuals can be drawn into the process. As partnerships develop, data sharing and cooperation should increase as well.

One critical aspect the Task Force agreed upon was that data ownership must be clearly identified. The focus of the Task Force is to recommend ways to improve information dissemination and not to take ownership. While the use of a clearinghouse would be beneficial, it must be stressed that this function would involve reviewing information to insure that it is readily accessible and consistent, not to manage the many operational data systems.

The following are some examples of initiatives that are currently underway. Please note that this list is not exhaustive.

➤ Alumni Outcomes Assessment

Information on how Brooklyn College students fare once they leave the college is currently sparse. Since the experiences students receive here have a value, it is imperative to have substantive information in this area. This information can be used in numerous ways ... outcomes assessment, fund raising, public relations, enrollment management, institutional grants, etc.

Two immediate actions have already been taken. One was the establishment of an *Alumni Outcomes Assessment Sub-Committee*. The second was a reorganization in the Office of Institutional Planning and Research to assign an individual to focus on this important area. As a result of these actions, the following are some examples of what is occurring:

- The *College Student Survey (CSS)* will be administered to students picking up their graduation packets. This project will be jointly coordinated by the offices of the Dean for Student Life and the Assistant Vice President for Budget and Planning. Students will have the option of completing the survey at the time they pick up their packets or of returning the survey a couple of days later. To encourage students to complete this 40 minute survey, all students who return completed surveys will be eligible to be entered in a weekly raffle for extra graduation tickets.

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The administration of the survey should provide good information about our graduating students. Previous College Student Survey administrations had sampling flaws that limited the generalization and usability of the data. It is our expectation, that the return rate and quality of data will exceed prior administrations. Some of the key areas the survey will help assess are school satisfaction, student values and goals, and cognitive/affective development. Additionally, we are hoping that we can establish a rapport with students during the administration of the CSS to encourage future participation in alumni surveys.

- A *recent graduate survey* will be administered to students when they pick up their diplomas. This 2 to 5 minute survey will collect basic demographic information (including email address), current employment data, further educational plans, and post-graduation satisfaction.
- Licensure exams (CPA, LAST, etc.) are another source of information. For example, the Office of Institutional Planning and Research is currently preparing a four-year analysis of CPA exam results.
- Advanced degree entrance exams (GRE, GMAT, MCAT, etc.) will also be analyzed. Processes will be implemented to collect this information regularly.
- Future educational efforts of our graduates are another assessment tool. The University has finalized its contract with the National Student Clearinghouse. This service will enable us to explore attendance at other institutions by our graduates and our non-graduates. Additionally, we are currently able to analyze data on Brooklyn College undergraduate degree recipients who have completed doctoral studies using National Science Foundation data.
- Career success is an objective of many of our students. Tools such as the *S&P Executive Register* can be utilized to identify individuals who have excelled in business. We are also exploring the possibility of obtaining information from professional organizations, such as the American Medical Association and the American Psychological Association.
- Collecting information on accomplishments of our alumni is also essential. We will be exploring how to link this information to our alumni database and how we can communicate this information effectively.
- Surveying alumni also must be done regularly. Since internet and e-mail access is now commonplace, we can expand our use of these communication tools. With the assistance of the Office of Academic Information Technologies, the Office of Institutional Planning and Research will begin to explore the use of *Perseus Survey Solutions for the Web* as another form of outreach.

➤ Institutional Grants

Institutional Grant applications often require institutional data to substantiate the need for grant money and to evaluate programs. During the Spring 2000 semester, the Dean of Graduate Studies and Research established an *ad hoc* committee to discuss ways in which Brooklyn College could assist faculty members in the preparation of institutional grant applications. This committee has been re-established as part of this Task Force. They have identified three types of information that grant writers require: general institutional statistics; high school and college performance data; and external data. A copy of the committee's report is attached.

Currently, several institutional grant proposals are in various stages of completion. These include the Title III grant proposal and RISE. The Office of Institutional Planning and Research is assisting in these efforts. By beginning this process, a plan can be developed to collect and communicate this information to grant writers.

➤ Faculty Information/CV Database

The current process by which Brooklyn College faculty compile information for tenure consideration is time consuming and inefficient. Added to that is the frustration that much of the data reported cannot easily be utilized to provide aggregate information on publications, honors, grants, and other achievements.

Dr. Scarlatos of the CIS department will be assisting us in designing a web-enabled form that will assist faculty in providing this information. This will be the front end of a database that can be used to produce reports on this information.

➤ All Funds Accounting and Financial Reporting

Brooklyn College's budget is comprised of various revenue streams, many of which are administered by different entities. For example, tax levy expenditures are processed at Brooklyn College and checks are issued by New York State, non-tax levy expenditures are processed by Auxiliary Accounting, grants activities are processed by the Research Foundation, and fund raising flows through the Brooklyn College Foundation.

In order for the entire budget to be managed effectively, mechanisms must be established that enable comprehensive financial reports, including data from all funding sources, to be regularly generated. A sub-committee is working on identifying the data needed from each system so interfaces between those systems and IFAS (Brooklyn College's current accounting system) can be developed.

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➤ Enrollment Management Information

The Office of Institutional Planning and Research is working closely with the Office of Admissions and the Office of Graduate Studies and Research to develop reports that can assist in our enrollment management efforts.

➤ Student Information and Cohort Analyses

Efforts are underway to coordinate analyses involving the reporting of student data. Managers of programs, such as the Adult Degree Programs need information on their student populations to assist in program planning. Other cohorts, such as students admitted by the review process, CUNY Honors College students, and TOCA students need to be reviewed.

The Registrar's Office and ITS are working with the Office of Institutional Planning and Research to address these issues and propose ways to collect information efficiently. For example, the Registrar's Office has developed Showare, a student record database. This database is barely utilized. We are beginning the process to review the structure of the database and determine if reliable and valid data can be generated from it.

These are just some examples of the actions currently underway in our attempts to improve data and information flow.

Recommendations

The Task Force recommends the following:

➤ Data Quality

- *Development of an Institutional Research Data Base (IRDB) by the Office of Institutional Planning and Research*

Much of the data analyses performed by the Office of Institutional Planning and Research are done using the mainframe version of SPSS (statistical package). Writing these programs is extremely labor intensive. Consequently, new requests (or variations on old requests) cannot be delivered in a timely manner. Additionally, the reports produced are generally not user-friendly.

Over the last several years an effort has been made to convert to the PC-based version of the software. This conversion unfortunately has been very slow. A concerted effort needs to be made in this area since the PC-based version offers increased ease of use and flexibility.

The University is in the process of finalizing the testing on their IRDB system. We will have access to this database and be able to receive it in SPSS format. The advantage this information gives us is that not only does it include current Brooklyn College students, but it also includes former Brooklyn College students who are still in the CUNY system. Since these students count in retention and graduation statistics, the CUNY IRDB will provide additional information.

We must develop a model for organizing and linking data so more useful information can be generated. Once this model is in place, cohort analysis reports can be generated as long as the cohort is clearly identified. Standard report formats can be saved and reused for different cohorts. This in turn will save time in producing reports and insure consistency in definitions and methodology.

Building a strong foundation would yield substantial results in the future. Not only could standard reports be regularly produced, but also *ad hoc* report generation would become simpler and faster.

- *Development of a Data Dictionary and Standard Methodology*

It is important that definitions and terminology be consistently used and applied. The best system will still yield inaccurate information, if the inputs are not appropriate or not validated. Therefore, it is extremely important to insure that every data element is thoroughly defined as to meaning and valid values.

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Future actions must include thorough reviews of all data elements used for reporting. This should also extend to external data to insure that when we use those data we are assured they are reliable and valid. Additionally, when comparing external data to internal data, we need to verify that measurements are applied consistently and if they are not, we must be able to specify the differences in order to avoid making invalid assertions.

➤ Data Availability

- *Development of an Institutional Information Website by the Office of Institutional Planning and Research*

Communication is a critical component in making information usable. The use of the Internet as a communication tool must be explored. The creation of a user-friendly website by the Office of Institutional Planning and Research will enable information to be presented in a manner that will maximize its distribution. An effective website will be organized so that users will be able to see what information is available at various levels and drill down to get additional details.

A website also offers tremendous flexibility. Hyperlinks enable information to be stored in one location and linked to other pages. The website can also start with available information and grow as more becomes available. Information users can become part of the process by offering suggestions and requesting that other data be added.

The Assistant Vice President for Budget and Planning envisions calling this website BRICKS (**B**rooklyn College **R**esource **I**nformation **C**enter **K**nowledge **S**ite). The goal is to build the site brick by brick, to insure a solid design and foundation.

➤ Clearinghouse

The use of a clearinghouse would insure that information is reliable, consistent, and available. The Task Force feels that the Office of Institutional Planning and Research has begun to act in that capacity and should continue to do so. The development of the tools described above will greatly assist in this effort.

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➤ Staffing

The Office of Institutional Planning and Research will coordinate this effort. As such, it will need adequate staffing. The Task Force feels that the continued maintenance of existing staffing and support, successful completion of pending searches, and the availability of funds related to a recent retirement will enable implementation of the recommendations to begin.

By staggering the pending searches, a team can strategically be put in place while evaluating progress and changing needs. As the Task Force assesses progress during the next few months, we will determine whether additional resources may be needed to carry out this initiative.

➤ Information Survey

In Fall 2001, the Task Force intends to distribute a survey, or differentiated surveys, to the college community. Instead of using an open-ended approach to collecting information, the Task Force will create a document that lists the information available and ask respondents to comment accordingly.

It is our hope that this approach will provide a focus that enables us to use the responses productively to build upon our knowledge base, and to make necessary adjustments to improve the quality and presentation of information.

➤ Timeframe

Since the problems presented in the charge made to the Task Force developed over time, it is unrealistic to expect them to be resolved overnight. Instead of trying to define a problem that is extremely complex and perhaps cannot even be defined, we are proposing targeted attempts to address needs and concerns.

The focus now will be on continuing to make strides in this area and to involve the entire community in this effort.

➤ Assessment

This Task Force, or a successor Task Force, should assess the progress made to insure continual improvement. As with all college activities, thorough outcomes assessment must be done for information issues. Otherwise, we may once again lose sight of the direction in which we need to move.

Assessment must look at the issue on all levels. At the macro level, we must insure that our information needs are consistent with Brooklyn College's Strategic Plan. At the micro level, we must insure that users have a forum to find or request the information they need to perform their jobs and that we do not create processes that are unduly burdensome or expensive.