

# THE BRIDGE TO EMPLOYMENT INITIATIVE



## A Decade of Promising School-to-Career Partnerships

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**The Bridge to Employment Initiative:  
A Decade of Promising School-to-Career Partnerships**

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# Preface

Far too many young people fail to see the connection between what they are learning in school and its relevance to the world of work. An unacceptable number of these students leave school before graduation, often because they feel bored and disconnected from what they refer to as the “real world.” Even successful graduates have little familiarity with the range of exciting career options that await them, especially in the fast growing cutting edge field of health care.

Bridge to Employment (BTE) is designed to reestablish that critical connection between academic achievement and practical application. BTE helps young people build solid futures by introducing them to a broad array of careers in health care and providing them with real world experiences that link back to their classroom studies. BTE supports educational reform by communicating to students-especially those most at-risk of dropping out-that learning can be meaningful, engaging, and relevant.

Founded on a common core of proven school-to-career principles, BTE creates opportunities for businesses, educators, community groups, and parents to build long-term partnerships that can have a meaningful impact on students’ future success in the workplace, and, by extension, produce broader educational and economic effects within the communities in which these partnerships operate.

Johnson & Johnson’s worldwide contributions program is based on a culture of caring that is the hallmark of our Family of Companies. BTE is one of our signature programs. Our efforts go beyond financial support. We have developed strong partnerships with outstanding not-for-profit and government organizations with the objective of improving the quality of life in our communities-especially those that are economically disadvantaged.

This document shines a light on the positive outcomes experienced by young people, their schools, their communities, and indeed their business partners, when caring organizations join forces to revitalize education. It is our hope that the BTE model and the lessons learned from our decade of experience in a wide variety of locations will spur other communities to establish school-business partnerships of their own. We are convinced that the returns far exceed the investment.

**Michael Bzdak**  
Director, Corporate Contributions  
Johnson & Johnson



# Foreword

This report celebrates two important stories. The first is the story of the young people and adults who have made the Bridge to Employment (BTE) partnerships work in multiple locations over a ten year period. The BTE partnerships between schools, business, and non-profit organizations embody the three key features that characterize effective learning environments for youth: rigor, relevance, and relationships.

BTE partnerships have set a high standard for academic learning for youth and an equally high standard of instruction for their teachers. They have motivated young people to perform better in school by demonstrating the relevance of academic learning. The partnerships have introduced young people to a range of careers in health care, and have given them real world experience through internships, job shadowing, and community service. Finally, through coaches and mentors from participating companies, the partnerships have fostered relationships between students and a community of caring adults beyond their family and school environments.

The results for participating students are promising: increased engagement and academic achievement, a higher pursuit of and exposure to higher education than their peers, and greater knowledge of the field of health care. This report documents another important outcome: the reciprocal benefits to the adults and community institutions that participated. These benefits include increased morale and productivity among employees, and better collaboration between high schools, universities, companies and community based organizations.

BTE exemplifies what effective school-to-career partnerships can achieve. Jobs for the Future has tracked these kinds of partnerships during the past 15 years, and has advocated for them as a critical piece of a 21st century education system. I am particularly impressed that BTE emphasizes the common skills required by both college and careers. Rather than setting a false choice between career preparation or college prep, BTE demonstrates “both/and” design features such as: summer institutes on college campuses; the opportunity for students to take credit-bearing college level courses while in high school; job shadowing and internships; and professional development opportunities for teachers.

The second story to celebrate is that of Johnson and Johnson’s sustained commitment to BTE over a ten-year period, and the role the company has played in ensuring strong design and continuous improvement. The company has encouraged the use of research

and data to improve the partnerships, supported technical assistance and learning between sites, and encouraged intensive strategic planning efforts before funding the most promising partnerships.

As a result, the success of BTE is an inspiration and a challenge to other companies, school districts, universities, and policy makers to replicate and institutionalize such approaches so that they become the common experience of young people rather than the good fortune of a few. Through BTE, Johnson and Johnson has set a powerful example of the difference an engaged corporation can make in the lives of young people and in communities. This report documents that impact, as well as the concrete steps others in the private sector can take to partner with their local education systems. It is well worth reading.

**Hilary Pennington**  
Co-founder and Vice-Chair  
Jobs for the Future

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# EXECUTIVE SUMMARY

**I**n 1995, Johnson & Johnson launched the Bridge to Employment (BTE) initiative in an effort to support education by communicating to at-risk students that learning can be meaningful, engaging, and relevant. BTE helps young people build solid futures by introducing them to a variety of careers in health care and providing them with real world experiences. Each BTE partnership—which consists of a local Johnson & Johnson operating company, one or more local schools, an institution of higher education, and an intermediary organization—is granted flexibility in developing customized approaches that best meet the needs of local students and school systems. The success of these unique partnerships stems from the use of a common core of scientifically sound school-to-career principles: maintaining high standards of academic learning for all students; providing opportunities for contextual learning; creating links with institutions of higher education; and connecting students with adults in the workplace.

More specifically, the BTE initiative:

- builds long-term partnerships among businesses, educators, community groups and parents to have a meaningful impact on students' future success in the workplace;
- prepares at-risk young people to meet the challenges and requirements of the health care industry and today's complex society;
- reinforces parental involvement as a critical link between young people and their schools; recognizes and advances community efforts in locations that are exemplary in helping young people to begin building careers; and
- assists in connecting students to institutions of higher education and training.

**BTE helps young people build solid futures by introducing them to a variety of careers in health care and providing them with real world experiences.**



This report provides insight into promising practices in school-to-career partnership-building and sustainability by closely examining seven key elements of the BTE initiative that appear to be particularly responsible for its success. In the process, the report documents attempts to institutionalize these kinds of partnerships through resource management, curriculum development, and professional development. Finally, the report concludes with recommendations to schools, businesses, and funding agencies on how to effectively initiate, build, and sustain school-to-career partnerships.

In developing this report, the authors relied on information provided by site coordinators from the 24 current and past BTE partnerships, and the three BTE evaluation teams who work with the partnerships. This information included observations by students, career coaches, teachers, and administrators. In addition, quarterly and annual reports, evaluation reports, site visit summaries, student survey results, and other materials from the sites provided further quantitative and qualitative information about each of the partnerships.

## Successes and Outcomes of the BTE Initiative

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It is evident that Bridge to Employment partnerships make a powerful difference in the successful development of the students, schools, businesses, and communities involved. The data gathered for this report show that BTE not only affects students, which are its primary target group, but also the individuals and organizations that comprise each partnership. This influence can be seen through: increased student engagement and academic achievement; the development of new school curricula, career centers, and science labs; increased productivity and job satisfaction among Johnson & Johnson employees participating in BTE activities; and increased communication and collaboration among local high schools, universities, companies, and community-based organizations.

While each BTE partnership is different in design and implementation, they are alike in their goal of effecting positive effects on the students, schools, businesses, and other organizations involved. A survey sent to

the site coordinators of the current and past BTE partnerships, and the three evaluation teams, revealed that the different activities and personalities associated with the partnership yielded varying degrees of success. With respect to BTE's effect on students, site coordinators and evaluators agreed that BTE had a moderate-to-high positive impact on young people in four key areas: increased academic engagement; pursuit of and/or exposure to higher education; increased focus on career development/knowledge of health care; and positive youth development. The full report also examines the partnerships' effects on schools and business partners.

## Lessons Learned After a Decade

All BTE site coordinators and evaluators indicated that a successful BTE partnership—one that is transforming to all partners—must have significant collaboration and buy-in from all of the parties involved. Each of the BTE partnerships funded to date has experienced unique successes and challenges, yet BTE site coordinators and the site evaluation teams agree that there are key elements that must be present if a partnership is to be successful. These elements include:

- Strong partnerships and collaboration
- Effective management and leadership
- Structured work-based learning opportunities
- High expectations and accountability
- Links and exposure to higher education
- Evaluation and continuous improvement
- Institutionalization and sustainability

The full report discusses the key elements of successful BTE partnerships as identified by the BTE site coordinators and evaluation teams. These elements are inextricably linked to one another. When one dimension of the partnership is strong, it has a correlative effect on other aspects of the partnership. The same is true in cases where there are weaknesses. “Spotlight pieces” interspersed throughout the report provide an illustrative glimpse into the dynamics of the key elements of success within the context of actual BTE partnerships.

**A successful  
BTE partnership—  
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all partners—must  
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parties involved.**

The report concludes with remarks and recommendations geared toward schools, business, and funding agencies interested in becoming involved in BTE and other school-to-career initiatives. As a synthesis of the data combined with observations from BTE site coordinators, evaluation teams, and the technical assistance teams from the AED National Institute for Work and Learning, and the Johnson & Johnson corporate headquarters, these recommendations share some of the knowledge gained over the last ten years of work on the BTE initiative.



# INTRODUCTION

**T**he health care industry in the United States is growing by leaps and bounds, placing increased demands on education and training. The U.S. Department of Labor estimates that half of the occupations projected to grow the fastest over the next decade are concentrated in health services, and by 2012 approximately 16 percent of all new jobs created will be in the field of health care.<sup>1</sup> At the same time, the public school system is being challenged to increase graduation rates, particularly among underserved youth, and to reevaluate the way it prepares students to enter the workforce. Since 1995, Johnson & Johnson's Bridge to Employment (BTE) initiative has offered a solution that addresses both of these issues: introduce high school students to a broad array of careers in health care and provide them with real world experiences that will positively impact their educational experiences and prepare them for careers in the booming health care industry.

Since Johnson & Johnson launched BTE, one of its signature Corporate Contributions programs, the initiative has engaged students from a wide variety of social, ethnic, and economic backgrounds, but has consistently targeted underserved youth, typically at the secondary school level. Remaining true to the Johnson & Johnson credo, which states that each operating company is responsible to the communities in which Johnson & Johnson employees live and work, the BTE initiative embodies Johnson & Johnson's commitment to "encourage civic improvements and better health and education."

Each BTE partnership—which consist of a local Johnson & Johnson operating company, one or more local schools, an institution of higher education, and an intermediary organization—is granted flexibility in developing customized approaches that best meet the needs of local

**“We define success as providing health career opportunities for inner city high school students who meet current and future workforce demands.”**

**—Bessie Pitts**  
Assistant Dean, Cincinnati State  
Cincinnati, OH  
BTE Partnership

<sup>1</sup> Bureau of Labor Statistics, U.S. Department of Labor. (2004). *The 2004-05 Career Guide to Industries*. <http://www.bls.gov/oco/eg/cgs035.htm>.



students and school systems. The success of each individual partnership stems from their use of a common core of proven school-to-career principles: maintaining high standards of academic learning for all students; providing opportunities for contextual learning; creating links with institutions of higher education; and connecting students with adults in the workplace.

BTE is based on the most current and emerging research on school-business partnerships and experiential learning. Promising practices in school-to-career initiatives include: hands-on learning and innovative teaching, career exposure, strong project leadership, clear assessment and evaluation measures, community involvement, and technical assistance in partnership development, maintenance, and sustainability.<sup>2</sup> These practices are an integral part of the BTE initiative and, when made a strong part of a BTE partnership, lead to successful school-to-career partnerships.

Recent research highlights the ways in which businesses benefit from entering into partnerships with education institutions and community-based intermediaries.<sup>3</sup> There is evidence that employer affiliation with school-to-career partnerships is associated with maintaining highly skilled, committed young workers are less likely to leave their jobs, more likely to be productive, and have better overall morale.<sup>4</sup> Organizations participating in school-to-career initiatives tend to allocate greater resources toward recruitment and basic skills training of young workers, which results in stronger employees.<sup>5</sup>

Since the inception of the initiative, Johnson & Johnson has supported the development of 24 BTE partnerships around the United States and in Puerto Rico (see page 52 for a listing of BTE partnerships). Once a year, Johnson & Johnson World Headquarters targets communities with a Johnson & Johnson local operating company and gauges interest in launching a BTE partnership. Interested companies undertake an intense strategic planning effort in collaboration with local school and community partners. This effort culminates in a detailed proposal, workplan, and evaluation protocol. From these materials, Johnson & Johnson selects the most promising partnerships to be funded for a period of three years.<sup>6</sup>

<sup>2</sup> Patterson, M.A. & Carline, J. (2004). *Learning From Others: A Literature Review and How-To Guide From the Health Professions Partnership Initiative*. Washington, D.C.: Association of American Medical Colleges.

<sup>3</sup> Kazis, R. & Pennington, H. (1999). *What's Next for School to Career?* Boston, Mass.: Jobs for the Future.

<sup>4</sup> MacAllum, K. and Charner, I. (2002). *Beyond the Success of Students: An Analysis of Benefits that Accrue to School-to-Career Partners*. Washington, D.C.: Academy for Educational Development.

<sup>5</sup> Shapiro, D. (1999). *School-to-Work Partnerships and Employer Participation: Evidence on Persistence and Attrition From the National Employer Survey*. Washington, D.C. Office of Educational Research and Improvement, U.S. Department of Education.

<sup>6</sup> Starting in 2005, new BTE partnerships will receive an additional one year planning grant.

With the understanding that partnerships benefit from continuous technical assistance and external formative and summative evaluations, Johnson & Johnson invited the AED National Institute for Work and Learning (NIWL) and three teams of experienced evaluators to join the BTE initiative. AED NIWL is one of 23 centers of excellence at the Academy for Educational Development (AED), a not-for-profit educational research and development organization based in Washington, D.C. AED NIWL offers assistance to each BTE partnership in identifying potential partners, initiating strategic planning, building capacity, developing their work plan, implementing various activities, and connecting with other BTE partnerships at the annual Alliance Building and Training Session. In addition, one of three evaluation teams is assigned to each partnership based on geographic location. These teams: conduct annual evaluations of each partnership; work with the partnerships to identify strengths and limitations in the managerial, programmatic, and operational aspects of the partnership; and provide feedback and recommendations to the sites for continuous improvement.

Today, the BTE initiative builds long-term partnerships among businesses, educators, community groups and parents, that:

- lead to meaningful impacts on students' future success in the workplace;
- prepare at-risk young people to meet the challenges and requirements of the health care industry and today's complex society;
- reinforces parental involvement as a critical link between young people and their schools;
- recognizes and advances community efforts in locations that are exemplary in helping young people to begin building careers; and
- assists in creating linkages to institutions of higher education and training.

The efficacy of school-to-career partnerships such as BTE has been documented in the educational literature.<sup>7</sup> Research indicates that participation in school-to-career activities can improve high school students' attendance and grades, and increase graduation rates.<sup>8</sup> These students are also just as likely, and sometimes more likely, than their

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<sup>7</sup> Hughes, K.L., Bailey, T.R., & Mechur, M.J. (2001). *School-to-Work: Making a Difference in Education*. New York, NY: Institute on Education and the Economy, Columbia University.

<sup>8</sup> Shapiro, D. (1999). *School-to-Work Partnerships and Employer Participation: Evidence on Persistence and Attrition From the National Employer Survey*. Washington, D.C. Office of Educational Research and Improvement, U.S. Department of Education.



peers to attend institutions of higher learning.<sup>9</sup> Some longitudinal studies also show that once school-to-career students enter the labor market, they are more likely to gain employment and earn higher wages.<sup>10</sup> School-to-career initiatives are also effective at bringing youth and adults together. One of the greatest benefits of school-to-career initiatives is the creation of new connections—students, teachers, and employers all report positive results from these relationships. Still, despite these findings, many uncertainties remain about the benefit of particular school-to-career activities. For instance, it is not clear which activities help young people to enter and succeed in high-quality post-secondary education programs and jobs. Furthermore, research on the efficacy of school-to-career programs is beset with questions about whether participating students would have made the same educational and career-related strides regardless of their participation in the program.<sup>11</sup>

The BTE partnerships funded to date are demonstration projects designed to explore the variety of ways in which partnerships come together to provide opportunities for young people in their community. It is hoped that these partnerships will eventually lead to replication and large-scale implementation around the United States, and around the world. The current shortage of health care workers is not solely an American phenomenon, but an international problem that calls for innovative solutions. BTE's promising partnerships can be part of the solution in America and abroad. In 2005, Johnson & Johnson launched BTE outside the United States. These international partnerships will add to the growing body of knowledge about how to effectively build partnerships and develop programs that enhance young people's education and career opportunities.

This report provides insight into promising practices in school-to-career partnership-building and sustainability by closely examining seven key elements of the BTE initiative that appear to be particularly responsible for its success: strong partnerships and collaboration; effective management and leadership; structured work-based learning opportunities; high expectations and accountability for all partners; links and exposure to higher education; and the role of research and evaluation. The report also documents the institutionalization of the partnership through resource management, curriculum development, and professional development.

<sup>9</sup> Bozick, R. and MacAllum, K. (2002). *Does Participation in School-to-Career Limit Students' Educational and Career Options?* Washington, D.C.: Academy for Educational Development. Furstenberg, F. and Neumark, D. (2005). *School-to-Career and Post-secondary Education: Evidence from the Philadelphia Educational Longitudinal Study*. Cambridge, MA: National Bureau of Economic Research.

<sup>10</sup> MacAllum, K. Yoder, K., Kim, S. and Bozick, R. (2002). *Moving Forward. College and Career Transitions of LAMP Graduates*. Washington, D.C.: Academy for Educational Development.

<sup>11</sup> Haimson, J. & Deke, J. (2003). *Preparing for Productive Careers: Students' Participation in and Use of Career-Focused Learning Activities*. Princeton, N.J.: Mathematica Policy Research, Inc.

The first section of the report explores the successes and effects of BTE on students, schools, and businesses. The second section discusses the lessons learned with respect to key elements of BTE as identified by those who have been intimately involved with the initiative over the last decade. Finally, the report concludes with recommendations to schools, businesses, and funding agencies for initiating, building, and sustaining school-to-career partnerships.

In developing this report, the authors relied on information provided by site coordinators of current and past BTE partnerships, and the three BTE evaluation teams who work with the partnerships. The site coordinators at each of the 24 BTE sites were asked to complete surveys about the factors associated with success, the effects of the partnership on a variety of dimensions related to student achievement, school improvement, and impacts on businesses and other partners, examples of challenges their partnership faced, and recommendations for future BTE and other school-to-career partnerships. Completed surveys were received from 13 of 24 site coordinators. This response rate was expected as several of the BTE site coordinators have moved on to new positions and organizations since the end of their BTE grant cycle. Further, BTE partnerships were not formally evaluated for the first several years of the partnership so some of the information requested in the survey was not available across all of the sites. In addition to the site coordinators, the three evaluation teams, comprised of individuals from research institutions that have been involved in tracking BTE, completed surveys which asked similar questions. These surveys provided the teams an opportunity to share information about partnerships which they consider to be exceptional. The authors then conducted follow-up phone interviews to gain additional information. In addition, quarterly and annual reports, evaluation reports, site visit summaries, student survey results, and other materials from the sites provided further quantitative and qualitative information about each of the partnerships.<sup>12</sup>

**One of the greatest  
benefits of school-to-  
career initiatives is the  
creation of new  
connections...**

<sup>12</sup> Currently, Johnson & Johnson is encouraging and supporting the establishment of comparative-research designs as part of the local evaluation component. As a result, future reports will be able to better document the relative effects of participation in BTE.



# THE BRIDGE TO EMPLOYMENT INITIATIVE

## Successes and Outcomes

**I**t is evident that Bridge to Employment makes a positive difference in the successful development of the students, schools, businesses, and communities involved. Data gathered through surveys, site evaluations, quarterly and annual reports, and observations by students, site coordinators, employees, career coaches, teachers, and evaluators, make it apparent that BTE not only affects students, its primary target group, but virtually all individuals and organizations that comprise the partnership. These effects can be seen through: increased student engagement and academic achievement; the development of new school curricula, career centers, and science labs; increased productivity and job satisfaction among Johnson & Johnson employees participating in BTE; and increased communication and collaboration among local high schools, universities, companies, and community based organizations. As with any initiative designed to bring about long-term individual, institutional, and systemic change, many of the effects of the BTE partnerships may not manifest for years to come.

BTE partnerships bring together individuals from the worlds of business, secondary education, higher education, and community based organizations (CBOs) who share a common interest in building school-to-career partnerships that benefit everyone involved. With the help of AED NIWL and the external evaluation teams, partners design and implement activities that introduce students to career opportunities in the field of health care, and provide them with hands-on experiences that have positive effects on their educational experiences. The ways in which each partnership implements BTE differ, but all the partnerships have a local Johnson & Johnson operating company champion, and site coordinators who are often based at high schools, colleges, or CBOs.

**“This program has made me see that I can do anything I put my mind to.”**

—Student  
Miami, FL  
BTE Partnership



The activities they choose to undertake also vary widely. Yet all BTE partnerships provide a combination of activities and opportunities for students, including:

- summer institutes;
- credit-bearing college level courses;
- job shadowing; student internships;
- professional development opportunities for teachers;
- dual enrollment programs; vocational, academic, and financial counseling;
- community-based projects;
- interactive health-related curricula that links to state science curricula and standards whenever possible;
- mentoring relationships;
- standardized test preparation;
- tutoring in science and math;
- healthcare-themed academies at high schools; and
- exposure to post-secondary institutions through activities such as summer camps and college tours.

While each BTE site is different in design and implementation, they are alike in their goals of effecting positive effects on the students, schools, businesses, and other organizations involved in the initiative. A survey sent to the twenty-four BTE site coordinators of current and past BTE partnerships and the three evaluation teams revealed that the different activities and personalities associated with BTE yielded varying degrees of success in positively affecting students, schools, businesses, and other partners.

## BTE's Effect on Students

**P**erhaps the most important effect of BTE is increased student engagement. Research shows that students who participate in school-to-career initiatives earn grade point averages that are at least as high as their non-participating peers, they are less likely to drop out of school, and are better able to define their career goals for the future.<sup>13</sup> Students who participate in BTE are observed to be more interested in their studies, more committed to completing high school, and more likely to attend and graduate from college than their counterparts. Participants in the Roanoke, Virginia and Jacksonville, Florida BTE partnerships, for example, showed a marked improvement in attendance rates and appropriate behavior, while youth participating in the Guaynabo, Puerto Rico BTE partnership were more actively engaged in learning and reported feeling a stronger sense of membership in their community.

The site coordinator for the Cincinnati, Ohio BTE partnership reported that “BTE has had great success in encouraging students to pursue post-secondary education in health career programs.” Eighty-eight percent of BTE students enrolled in higher education, as compared to 25 percent who enrolled prior to BTE. In Arlington, Texas, BTE students were 23 percent more likely than their peers to complete their undergraduate education. In addition to experiencing increased academic success, many BTE students become more engaged in career-related extracurricular activities. This was especially true in San Jose, California where all of the nursing academy students participating in BTE are involved in extracurricular activities offered by the academy.

Youth involved in BTE develop not only as students, but also as people connected to adults and their community, emerging more confident in

**“BTE has had great success in encouraging students to pursue post-secondary education in health career programs.”**

**—Dan Lozier**  
Site Coordinator  
Cincinnati, O  
BTE Partnership

<sup>13</sup> Hughes, K.L., Bailey, T.R., & Mechur, M.J. (2001). *School-to-work: Making a difference in education*. New York, N.Y.: Institute on Education and the Economy, Columbia University.



themselves and their abilities. In Albuquerque, New Mexico students in BTE reported that they felt more secure in their ability to make decisions after being in the program. In Guaynabo, Puerto Rico, middle school BTE felt an increased sense of membership in the larger community around them. Young people involved in the Los Angeles BTE partnership worked with staff from Neutrogena, a local Johnson & Johnson operating company, to create gift baskets as part of a community service project.

BTE participants have learned the value of team work and self-discipline while gaining a greater maturity and exposure to the “real world” through work-based learning opportunities. One site coordinator remarked that, “most students change so drastically over the summer at Johnson & Johnson that you can actually see it in their demeanor. They are more mature, have an understanding of how the real world works and have gleaned from the adults with whom they worked that they must not just get good grades in school but actually learn how to think.”

Almost all BTE partnerships pair career coaches with youth in an effort to create a caring and supportive relationship that will foster the youth’s completion of high school, enrollment in college, and consideration of a career in health care or a related field. The nature of the relationship varies from site to site and depends largely on the personalities of, and rapport between, the youth and adult. Both the New Brunswick BTE students and Johnson & Johnson employees participate in joint health and science-related field trips. Likewise, in the Kennett Square BTE partnership, each student is assigned a career coach from a health care field. The career coaches introduce them to health career opportunities through engagement in hands-on activities during an intensive summer camp at Centocor, the partnering Johnson & Johnson company. Some BTE sites provide peer mentoring, individual and family counseling services, and referrals to other local social service agencies when the young person or their family is in need of support. In Los Angeles, California, for example, the BTE partnership developed a unique career coaching element that pairs students with Johnson & Johnson retirees, and in New Brunswick, New Jersey, the BTE partnership boasts an intergenerational component in which students tutor elementary school children in math and reading. These services contribute to the positive development of

the students, which is essential to their success in high school and beyond.

Through participation in BTE, students are provided the opportunity to attend classes on college campuses, meet with college representatives and business leaders, job shadow at local Johnson & Johnson operating companies, experience hands-on science and health curricula in an engaging classroom environment, and exit high school with a marketable credential. Several partnerships provide students with opportunities to earn a Certified Nursing Assistant (CNA) certification which can afford them an opportunity to work as a CNA while pursuing higher education. A great number of BTE students in Cincinnati, Jacksonville, and San Jose have gained this credential. These avenues serve to increase students' exposure to postsecondary options and career opportunities in the health care field. As one student said, "The internship has motivated me to continue my studies and become a professional nurse." In addition to exposing students to specific occupations, BTE has increased students' motivation to complete postsecondary education and explore a variety of post-high school career options.

In Rochester, New York, for example, 100 percent of both 9th and 11th graders said worksite visits allowed them to understand the career opportunities in the health care field better and 97 percent reported that they "learned more about the characteristics of a good employee." An equal number said the visits helped them understand how school is important to their career plans.

Some students become interested in postsecondary career and technical training, while others set their sights on health-related courses of study at community and four-year colleges. Students themselves have reported that BTE has assisted them in setting goals for training and education beyond high school. In this manner, BTE provides students with early exposure to professional work environments, or a "sneak preview of what to expect in the real professional workforce," as one student observed.

Many partners in the BTE initiative have noticed remarkable changes in students who have participated. Table 1 on the next page presents the degree to which BTE site coordinators and evaluators believe BTE has

**“The internship has motivated me to continue my studies and become a professional nurse.”**

**—Student**  
Guaynabo, Puerto Rico  
BTE Partnership

had an effect on students, schools, and other partners. Site coordinators and evaluators agreed that BTE had a moderate-to-high impact on young people in three of six key areas: increased academic engagement; pursuit of and exposure to higher education; and increased focus on career development/knowledge of health care. One site coordinator explained the change in the students this way: “We cannot believe the impact that this program has [had on] the students. They are excited about health care and attending college. They believe in themselves and their futures!” BTE helps students see the connection between their academic studies and their future plans, making them more likely to become engaged in school. Students themselves have recognized the changes BTE has made to their level of engagement and interest in school. One student said, “The program helped me to understand my interests better and to continue studying topics related to health and science. It also helped me to behave better and to place more importance on, and be more interested in, my future plans.”

Table 1

**BTE Site Coordinators’ and Evaluators’ Ratings of the Impacts of Select Dimensions of BTE Partnerships on Students**

Impacts of select dimensions of BTE partnerships on students	Average rating by BTE site coordinators	Average rating by BTE site evaluators
Improving academic achievement	1.8	1.4
Increasing academic engagement (i.e. attendance, evidence of involvement)	2.1	2.4
Pursuit of/exposure to higher education	2.2	2.2
Increasing focus on career development/knowledge of health care careers	2.5	2.3
Granting of credentials and certificates	1.4	2.2
Positive youth development (i.e. personal growth, nurturing relationships with adults)	2.2	***

**SCALE:** Degree of Influence  
**0 = None | 1.0 = Modest | 2.0 = Moderate | 3.0 = High**

\*\*\* Question not asked on evaluator survey

# BTE’s Effect on Schools

Schools also stand to benefit from participation in the BTE initiative. Survey data, depicted in Table 2 below, reveal that site coordinators and evaluators perceive that participation in BTE has at least a moderate effect on the professional development of faculty and staff, the improvement of school resources (i.e. curriculum development, labs, centers, and technology), and the institutionalization of new instructional practices. In addition, there is evidence that in some cases BTE contributes to a school’s broader education reform and its ability to meet state standards, thereby reaching far beyond the limited number of students currently enrolled in BTE.

Table 2

**BTE Site Coordinators’ and Evaluators’ Ratings of the Impacts of Select Dimensions of BTE Partnerships on Schools**

Impacts of select dimensions of BTE partnerships on schools	Average rating by BTE site coordinators	Average rating by BTE site evaluators
Contributing to broader educational reform/meeting state standards	1.8	2.6
Institutionalization of new instructional practices/sustainability	2.1	2.0
Professional development of faculty and staff	2.0	2.0
Improving school resources (i.e. curriculum development, labs, centers, technology)	2.1	2.1

**SCALE:** Degree of Influence  
0 = None | 1.0 = Modest | 2.0 = Moderate | 3.0 = High



At some sites, before the start of BTE, teachers visit the local Johnson & Johnson operating companies with which they will be partnering so that they can better understand the material they will be teaching and its relevance to their students' internship experiences. Such participation in BTE often reawakens the faculty's interest in science and health care and provides teachers a chance to more carefully reflect upon the development of the curriculum they will teach. This, in turn, may have a positive influence on their students' academic achievement. In Milpitas, California teachers worked with LifeScan researchers to develop a county-wide Diabetes Technology Lab curriculum that included new science lab kits that today benefit not only the students in BTE, but all students at Milpitas High School, and all schools in Santa Clara County. At other sites, guest lectures by Johnson & Johnson employees have enhanced science and math curricula and helped to link concepts to real-world experiences. Still other partnerships have launched health career academies or smaller learning communities that focus on providing marketable skills and certification in conjunction with local businesses and health care facilities, such as the Jacksonville, Florida BTE partnership's CNA licensure program.

Many of these benefits to the schools continue after the BTE grant period has officially ended. A number of schools continue their partnerships with businesses, institutions of higher education, and community based organizations, and successfully leverage additional funding at the conclusion of the Johnson & Johnson grant. These partnerships have worked to institutionalize aspects of BTE so that the operating procedure at the school includes new curricula, school-business-community linkages, faculty positions, and internship opportunities. The BTE partnership in Rochester, New York, for instance, worked to establish a permanent career center, and schools have provided training for teachers to become career advisors. The partnership in Guaynabo, Puerto Rico was able to fund a school nurse with the BTE grant, and then worked to train student nurses to fill the position after initial funding ended. Meanwhile, the Raynham, Massachusetts BTE partnership developed and distributed a College Health Career Directory and offered an interactive health career education curriculum for middle school students, which today is used in classrooms across the area. Other schools have used their partnerships with businesses and local institutions of higher education to establish permanent scholarships for students based on developed articulation agreements<sup>14</sup> that arose out of the BTE partnership.

<sup>14</sup> An articulation agreement outlines specific coursework that students complete in their secondary education that will fulfill requirements at a postsecondary institution. These agreements assist students in making a smooth transition when transferring to postsecondary institutions.

# BTE’s Effect on Businesses and Other Partners

A noteworthy aspect of BTE partnerships is that they benefit all partners. Interestingly, as depicted in Table 3 below, the site coordinators surveyed for this report rated BTE’s impact on businesses and other partners, on average, higher than its impact on either students or schools. Each of three key areas included in the survey-creating and/or enhancing links/partnerships with new community based organizations and area businesses; increasing access to additional resources for schools; and demonstrating positive impacts on employees, career coaches, and work-based partners-was rated as having a moderate-to-high degree of influence on businesses and other BTE partners.

Table 3

## BTE Site Coordinators’ and Evaluators’ Ratings of the Impacts of Select Dimensions of BTE Partnerships on Businesses and Other BTE Partners

Impacts of select dimensions of BTE partnerships on businesses and other partners	Average rating by BTE site coordinators	Average rating by BTE site evaluators
Creating and/or enhancing links/partnerships with new community-based organizations and area businesses	2.5	2.2
Increasing access to additional resources for schools	2.3	2.1
Demonstrating positive impacts on employees, career coaches, work-based partners	2.6	2.2

SCALE: Degree of Influence

0 = None | 1.0 = Modest | 2.0 = Moderate | 3.0 = High

Participation in BTE allows area businesses to form relationships with local high schools, institutions of higher learning, and other community based organizations. The Kennett Square, Pennsylvania BTE partnership, for instance, implemented a two-week summer camp run in collaboration with West Chester University and Centocor, a local Johnson & Johnson operating company. As a result, Centocor has enhanced its relationship with West Chester University in a way that will make it easier for the company to recruit prospective employees. At the same time, students exposed to the health care industry through BTE become more knowledgeable about, and interested in, pursuing careers in the field. By allowing students this look into the industry and related career opportunities, businesses and industries, like Centocor and West Chester University, generate interest in their field and begin to develop a new pool of future applicants. Institutions of higher education benefit from increased student enrollment, as was the case with the Cincinnati, Ohio BTE partnership where 88 percent of recent BTE graduates enrolled in postsecondary health care programs.



BTE site coordinator and evaluator survey responses, as well as evaluations and final reports, make evident the tremendous impact BTE has on employees, career coaches, and other work-based partners who volunteer their time. One hundred percent of Cordis supervisors surveyed at the Miami, Florida BTE partnership said that having an intern contributed to a more pleasant atmosphere, and 83 percent felt that having interns increased productivity. Cordis employees gained new ideas and fresh perspectives on work processes as a result of the company's participation. Supervisor and employee surveys yielded similar results. Respondents overwhelmingly agreed that employees value working for a company that contributes to the education of young people, and that working with interns increases employees' skills in communicating with, supervising, and coaching others. Many supervisors confided to BTE evaluators personally that it is very satisfying to serve as a role model and to contribute to the academic growth and personal development of a young person.

Johnson & Johnson believes that BTE is an effective means to introduce newly acquired Johnson & Johnson companies to the credo-based values of the parent company. Johnson & Johnson is hopeful that BTE has a positive influence on the biannual credo survey and internal employee evaluations administered throughout the Johnson & Johnson family of companies.

# LESSONS LEARNED

## A Decade of Experience

**T**he BTE funding structure requires that each BTE site complete, submit, and commit to an approved project proposal. These proposals have stated goals and objectives that include specific strategies designed to encourage youth to pursue education and careers in the health care industry and to sustain and institutionalize the partnership so that youth can continue to benefit from the programs BTE established beyond the three-year funding period. Simply put, a successful BTE partnership fulfills and regularly exceeds the goals and objectives outlined in its proposal and workplan. This success is ultimately demonstrated through youth who are engaged in the learning process, improving their academic achievement, and empowered to make informed decisions about their career goals during high school and beyond.

Each of the 24 BTE partnerships funded to date has experienced different successes and challenges, yet BTE site coordinators and the site evaluation teams agree that there are key elements that must be present if a partnership is to be successful. There was overwhelming agreement among the site coordinators and evaluators that a successful BTE partnership must have significant collaboration and buy-in from all partners. A successful BTE partnership must also possess: strong management and demonstrated leadership with defined roles for each partner; a structured work-based learning component; links and exposure to institutions of higher learning; high expectations and accountability for all partners; and a structured system for feedback and communication from internal and external evaluators in order to facilitate continuous improvement. Moreover, to continue to be successful, partnerships must have a plan for partnership sustainability and institutionalization that includes effective resource management and opportunities for staff professional development.

### Key Elements of a Successful BTE Partnership

- 1. Commitment from all partners involved**
- 2. Effective management and leadership**
- 3. Structured work-based learning component**
- 4. Links and exposure to higher education**
- 5. High expectations and accountability**
- 6. A system for evaluation and continuous improvement**
- 7. A plan for institutionalization of the partnership**

BTE site evaluators noted that the most successful partnerships demonstrated common elements such as well-planned classroom instruction, active Johnson & Johnson local operating company involvement, and strong work-based learning opportunities. The partnerships themselves mentioned many of these factors and others when recounting how they determine their effectiveness and success. The Trenton, New Jersey BTE partnership, for example, uses several indicators to define success, including: increased student understanding of science-related terminology, concepts, and processes as measured through assessments; development of career planning and workplace readiness skills; demonstrable improvement in working with technology and other tools; and enhanced critical-thinking, decision-making, and problem-solving skills. In contrast, some sites such as Caguas, Puerto Rico, rely on student attendance and retention rates and percentages of student enrollment in health care-related programs of study in postsecondary institutions as objective measures of success.

The top seven elements of a successful BTE partnership as identified by the BTE site coordinators and evaluation teams are examined in this chapter. These elements are inextricably linked-when one dimension of the partnership is strong it has a correlative effect on other areas of the partnership; the same tends to be true where there are weaknesses. Throughout this chapter are spotlight pieces that provide an illustrative glimpse into the dynamics of the key elements of success within the context of actual BTE partnerships.



# Strong Partnerships and Collaboration

**E**ffective partnerships require the creation of new and distinct working relationships among organizations with different goals and cultures. These relationships depend on effective communication, cooperation, and collaboration. Not surprisingly, there are numerous challenges associated with the development, maintenance, and institutionalization of any partnership. Many times there are basic differences from one organization to another in terms of work loads, schedules, level of training and education, compensation, and occupational status. These differences must be acknowledged for all partners to feel valued and invested in the initiative. This may be particularly true when partners from different worlds come together, such as in the BTE initiative, which fosters the collaboration of secondary school students and teachers, college administrators and professors, health care professionals, researchers, scientists, business professionals, and others. This diverse alliance makes BTE partnerships both dynamic and challenging.

The development of effective partnerships poses many questions. How do you know which organizations and institutions to involve in your partnership? How many organizations and institutions should be involved? How much involvement can be expected from each partner? How will governance work? Those involved in the BTE initiative agree that effective answers to these questions are critical to the success of the partnership. The ideal time to discuss these uncertainties is during the initial design of the partnership, before the proposal is submitted.

One way to resolve these questions is to identify the strengths and weaknesses of each of the potential partners. This will help to distinguish the most logical role for each partner. For instance, some of the Johnson & Johnson operating companies in which BTE students intern are production facilities, while others focus on research. As a result, the kind of work-based opportunities each company is able to

**“Committed partners who participate equally are key, as is communication among partners.”**

—Gwen Miley  
Centocor employee  
Kennett Square, PA  
BTE Partnership



offer its students determines the role that the organization will play in the partnership. Many BTE site coordinators cautioned that it is important to have the involvement of a number of organizations, so as to help reduce the workload on any one organization, and help sustain the initiative. Others suggested that new partnerships should be careful not to expand too widely because effective communication becomes exponentially more difficult as partnerships grow. A careful self-assessment helps determine how best to strike the right balance.

The current body of knowledge on the creation of effective and lasting partnerships shows that it is critical to identify the mission of the partnership early on in the planning process. This mission should be agreed on by all of the stakeholders. The overarching goals of the partnership should derive from this shared vision. In order for the partnership to be successful, each partner must take responsibility for working toward these goals.

The BTE evaluation teams have had the opportunity to work with a variety of partnerships and have learned first-hand what makes for successful partnerships. One evaluation team noted that “a strong partnership structure with clearly articulated roles influences success.” Another team related that “[BTE’s] success is strongly influenced by a set of working partners who take their responsibilities seriously.” The Milpitas, California BTE partnership was cited as an example of a particularly dynamic venture. This was largely because those involved saw “the complementary nature of their components and that they were really dependent on each other to be able to move forward.”

Johnson & Johnson has found that even strong partnerships benefit from the opportunity to collaborate with other organizations engaging in similar activities or working toward a common mission. In the fall of every year, Johnson & Johnson brings together all of its BTE grantees for several days of information exchange, professional development, and camaraderie. Through interactive workshops, presentations, and panel sessions, the annual Alliance Building and Training Session (ABTS) provides BTE grantees the opportunity to learn about promising and effective strategies for serving youth, strengthening the level of communication and cooperation between local partners, and planning for future activities and improvements. While the ABTS provides local partnerships with valuable technical assistance and access to national experts and resources, perhaps the most significant aspect of the session is the opportunity for cross-site exchange and team building.

# BTE—the Sum of all Partners

In Trenton, New Jersey, BTE exemplifies how student achievement is tightly linked to how well the partnership functioned. When the relationships between the partners jelled, activities proved successful; when the partnership relationships floundered, its impact declined.

The Trenton BTE partnership was comprised of Trenton Central High School, the James Kerney Campus of Mercer County Community College (MCCC), and JANSSEN Pharmaceutica, the local Johnson & Johnson operating company. These entities came together to create a partnership designed to bridge the gap between scientific theory, practical application, and employment opportunities. High school students at Trenton High, grades 9 through 12, who demonstrated an interest in science and technology and who participated in the Mercer County College Upward Bound Partnership were the partnership's principal targets. Many students had poor academic performance records and came from urban households and neighborhoods with few financial or non-monetary resources.

During BTE's first year in Trenton, the 1999-2000 school year, Mercer County College and JANSSEN worked closely to create a math/science curricula, a four-week Summer Institute and an active mentoring partnership. Students ended the year by developing, manufacturing, and marketing a soap product. Evaluations showed that students learned a good deal of chemistry, as well as skills in the scientific method and laboratory procedures.

Unfortunately the second year of BTE was not as successful. The BTE coordinator at Mercer County College resigned early in the academic year and was not replaced until the following academic year. The delay by the partners in selecting a replacement resulted in a breakdown in the delivery of curriculum, a disruption in mentoring activities, and a postponement of the Summer Institute. JANSSEN rescued the Summer Institute from cancellation and provided a six-week partnership on physics to instructors. Despite these efforts, BTE students described the 2000-2001 Summer Institute as disorganized and chaotic. As one student said, "JANSSEN tried to do everything—it wasn't fair to them or to us."

Mercer County College hired a new BTE coordinator in 2001 and partnership coordination rebounded. The integration of curriculum and mentoring was revived, and the Summer Institute proceeded on schedule. Evaluation data indicate the students learned a good deal about forensic science, crime scenes and labs, and scientific evidence in the third year of BTE.

The Trenton BTE partnership points to the fragility of these kinds of relationships, and the need to build in assurance for the continued involvement of key players. This partnership was not as effective as it could have been because the lack of continuity hampered efforts to respond to their program's needs.



# Effective Management and Leadership

**“ Oftentimes projects like BTE are people-dependant and the change that occurs in schools and corporate settings makes it difficult to stay on target and complete the stated mission and goals. Involve as many people as possible in the development of site activities so that change in personnel does not have such a significant impact on progress and success.”**

—Kathleen Raniewicz  
Rochester, NY  
BTE Partnership

**E**very strong organization needs an effective management and leadership team; it can be argued that this is especially true for partnerships that rely on the cooperation and collaboration of multiple organizations. In partnerships, strong leaders influence others to achieve challenging goals and direct their partnership in a way that draws on the strengths of all involved, forming cohesion between the various entities.

Leadership is particularly important during the start-up phase of a partnership, when the selection of talented, hard-working people who share a common vision is critical to the partnership's future success. As a BTE partnership progresses, strong leadership is vital in motivating participants to remain engaged and to perform their agreed upon duties, particularly when many of those involved are volunteers. Successful management of a BTE partnership requires a leadership team that continually fosters new leaders. This will allow the leadership team to transcend the individual personalities that began the partnership, and the partnership will be much better-prepared to withstand personnel changes. As the above spotlight on the Trenton BTE partnership illustrates, management and leadership are closely linked with development.

Responsibilities for accomplishing stated BTE goals—typically a mixture of academic, career-awareness, and community goals—are shared among a team of education, business, and community partners. The success of the partnership relies on the development, implementation, goal attainment, and sustainability of BTE as a collective activity, sometimes with a rotating leadership and often with the bureaucratic management duties in the hands of a school or business liaison. The most successful BTE partnerships have included leadership teams or advisory committees made up of a combination of

community health professionals, high school teachers, post-secondary and university staff, Johnson & Johnson representatives, business professionals (such as Chambers of Commerce), upper level school district administrators, and local politicians, as well as students and parents.

Management and leadership tasks relevant to BTE projects are numerous and include:

- developing and utilizing an action-based advisory group;
- engaging in strategic and action planning;
- encouraging the substantive involvement of all partners;
- reminding people of their roles and responsibilities, and encouraging those involved to stay on-task;
- meeting deadlines;
- providing work-based learning opportunities;
- using evaluation and a continuous improvement process;
- reviewing accomplishments and difficulties;
- sharing and/or marketing successes with the community; and
- garnering resources within the community to support, sustain, and export BTE activities.

Strong leaders find ways to institutionalize the partnership so that it lasts beyond the life of the BTE grant, and survives turnover in staff or even changes in policy mandates. This means not only attending to all of the tasks listed above, but also working with partners to develop a vision for the initiative, putting that vision into action, and then incorporating those actions into the partnering organizations internal operating procedures so as to create a legacy that promotes long-term educational improvement.



## Piloting Partnerships

When Jacksonville was invited to apply for a BTE grant, the Chamber of Commerce's Education and Workforce division led the charge, prodded by dual concerns: improving employability opportunities for students and satisfying the healthcare community's increasing need for technically skilled employees. The school district's health/nursing program at Randolph Academies of Technology, and Vistakon, the Johnson & Johnson vision care subsidiary, quickly came on board as team partners and worked together to craft a comprehensive, ambitious proposal.

The Chamber of Commerce, despite being the fiscal agent for this BTE partnership, became disengaged immediately after grant approval when a key individual resigned. Institutional commitment to the project left with that individual, and business partner activity became sidelined when no replacement immediately stepped up to the plate. Although this partnership had a great plan in the form of the BTE proposal, that plan was not being well managed.

The partnership got back on track when the on-site technical assistance and evaluation visit revealed the extent to which it was struggling. During discussions with the remaining partners, the Vistakon liaison was made aware of the situation and encouraged to take a lead role, which she did. Together with the remaining partners, the Vistakon liaison developed an action plan based on the original grant proposal and the evaluation team's recommendations. The plan—following an organize, divide, and conquer approach—broke BTE objectives into specific tasks assigned to different individuals. Open lines of communication and basic business practices eventually led to the creation of an even stronger leadership team. The team took the action plan to the Health Academy Steering Committee which uses the plan as a gauge of progress toward meeting grant objectives. The action plan still serves as a recruitment tool for new members as it indicates a focused and organized partnership that appeals to the business and postsecondary communities.

Today, the Jacksonville BTE partnership is noted for the exceptional utilization of its business-industry and higher

education communities, primarily as evidenced by the commitment of the steering committee which includes all major healthcare facilities, most postsecondary healthcare programs, and other community healthcare organizations in the area. The success of the partnership can be attributed to the leadership of its Vistakon and Chamber of Commerce liaisons and the successful engagement of state and local education administrators. Despite a rocky start, this partnership is implementing each of its proposed objectives, including some innovative activities (e.g., joint community service projects with local hospitals and nursing schools, and higher education financing/scholarships workshops that include parents). Academically, all BTE nursing students are either CNA licensees or preparing to test for the CNA license, and the vast majority are pursuing additional healthcare training. Additionally, the entire school district—thanks to strong BTE leadership and the success of the BTE Health Academy—is focused on implementing similar academy models at each of the district's high schools.

The lessons learned from the Jacksonville BTE partnership are two-fold. First, successful management of a BTE project requires a partnership that transcends the individual personalities who started the partnership to withstand leadership changes as BTE matures. Second, use of an action plan organizes and enables a partnership to efficiently manage its limited resources by identifying tasks to be accomplished, delegating them, establishing timelines, and measuring progress toward goal attainment.

# Structured Work-Based Learning Opportunities

Students intuitively seek a logical connection between their academic instruction and their future careers. Work-based learning opportunities—the combination of classroom instruction with structured work experiences—provide young people with a chance to make that connection. Work-based learning, a critical component of any school-to-career program, exposes young people to professional settings where they can gain “real world” experiences that allow them to explore potential career options, develop professional skills, and apply academic concepts to life situations. Opportunities for job shadowing, mentoring, and internships, as well as exposure to guest speakers and hands-on curriculum, offer a valuable learning environment that provide youth with insight into the knowledge and skills necessary to thrive in a professional setting. Recent research provides compelling evidence that investments in work-based learning experiences during high school can substantially improve the career prospects of young people during their postsecondary years.<sup>15</sup> BTE participants understand this. In a survey of BTE students in Jacksonville, Florida, 91 percent agreed, or strongly agreed, that participation will give them an advantage when they start looking for a job.

One of the primary goals of the BTE initiative is to provide students with contextual learning experiences that introduce them to careers in the fields of health care, science, and technology, and prepare them to enter and succeed in the workforce. Even if BTE students choose not to embark on a career in one of these fields, their experiences through BTE create awareness about the variety of professional and educational opportunities available after high school.

Each BTE partnership follows a unique approach to providing work-based learning opportunities. Students in Albuquerque, New Mexico, for example, received assistance in developing portfolios, completing

**“I’m going to be a doctor—a pediatrician. I need to learn more about science so I need this program.”**

**—Student**  
Trenton, NJ  
BTE Partnership

<sup>15</sup> Kemple, J.J. & Scott-Clayton, J. (2004). *Career Academies: Impacts On Labor Market Outcomes and Educational Attainment*. New York, N.Y.: MDRC.

job applications, and interviewing for jobs, while the hallmark of the Caguas, Puerto Rico partnership involved student job shadowing experiences and tours of five local Johnson & Johnson operating companies. Several partnerships, such as the one in Trenton, New Jersey, feature intensive summer institutes which provide participants the opportunity to explore aspects of science and technology, as well as engage in site visits, hands-on investigative techniques, and on-going activities with career coaches from local Johnson & Johnson operating companies. In San Diego, California, BTE students participate in company tours, field trips, paid internships, and job shadowing at the Johnson and Johnson Research and Development office and other locations including hospitals and biotechnology firms.



An interesting side-effect of BTE's work-based learning component is the benefit provided to non-BTE students at participating high schools. According to data collected by BTE evaluators for the New Brunswick, New Jersey BTE partnership, more than 75 percent of the students at New Brunswick High School took advantage of services offered by the career center originally established by the BTE partnership. Many non-BTE students benefited from the career center established in Rochester, New York, which helped them research the educational backgrounds necessary for careers of interest to them. The Wilmington, Delaware BTE partnership has recently combined BTE resources with a major grant from the U.S. Department of Education to implement a district-wide education-transformation plan and develop smaller learning communities, including a health care "themed academy" at a local high school. Finally, students enrolled in various science courses at a public charter school in Roanoke, Virginia continue to use a state-of-the-art science laboratory that was put into place by the BTE partnership.

## Putting Ideas into Action

The Bridge to Employment partnership in Milpitas, California—a partnership between the Santa Clara County Biotechnology Education Partnership (SCCBEP), Milpitas High School, and LifeScan Inc., the local Johnson & Johnson operating company, is an exemplary model of how work-based learning opportunities can positively impact participants. The partnership expands professional development for teachers in order to improve science education by providing access to exciting hands-on biotechnology curriculum and improving laboratory equipment.

The Milpitas partners have collaboratively developed a “Diabetes Technology Lab” curriculum founded in the science and technology of diabetes management. This curriculum has been implemented at Milpitas High School and two other schools in Northern California and will be available to all schools in Santa Clara County.

Through summer internships and externships at LifeScan, a company dedicated to improving the quality of life for individuals with diabetes, students and teachers learn how classroom concepts have real world applications. During their six-week internships, students experience a corporate environment and acquire skills that can be applied to their schooling and future employment, such as public speaking, writing, time management, and knowledge of such software applications as PowerPoint and Excel. Teacher externships provide a professional development opportunity for science instructors to experience the corporate arena and to refer to their experiences at LifeScan in their classroom instruction.

The Milpitas partnership has taken a phased-implementation approach to the internship component of their program. During the first summer of BTE, the head of the high school science department participated in a LifeScan externship which helped her develop and implement the classroom-based Diabetes Technology Lab curriculum which reached several hundred science students. The second summer brought externships for two teachers and internships for two high school students. Each teacher worked closely with one student on a lab experiment related to diabetes management. During the third summer, LifeScan successfully hosted four high school student interns and SCCBEP provided internships for the two students who had completed LifeScan internships the previous summer. Several of

these interns helped develop and refine the diabetes curriculum.

A significant challenge to work-based learning opportunities in health care settings for high school youth is that they often require a higher level of supervision from company employees. In settings where the work is highly specialized and sensitive, internship opportunities for youth can be difficult to secure.

The Milpitas partnership addressed these barriers by initially matching each student with a supervising teacher, and by developing a protocol at LifeScan for engaging young people. Another challenge that may arise when young people are working in a professional environment is efficient time management. In Milpitas, the BTE partners helped youth develop skills they could apply to their schoolwork and future employment. For example, the partners provided youth with guidance on how to maximize their time, and provided supplemental assignments, such as analysis using Excel spreadsheets, and presentations using PowerPoint.

Externships at Lifescan enabled teachers to further develop their professional skills, bringing modern biotechnology concepts into their classrooms, and linking education to employment. Meanwhile, youth gained exposure to a professional setting in which they could relate academic concepts to real-world applications, explore career options, and develop professional skills. One BTE student reported that the internships at LifeScan helped the students “learn about health care careers and confirm that they want to work toward a science career.” They also allowed students to “have a broader insight of the different careers found in the medical field and learn about different positions that contribute to a successful company,” the student reported.

# High Expectations and Accountability

**“We are responsible to the communities in which we live and work and to the world community as well... We must encourage civic improvements and better health and education.”**

—The Johnson & Johnson  
Credo

In the United States, the movement to improve student academic achievement by developing a system based on high expectations and accountability for all students, teachers, and schools, began more than a decade ago. A standards-based education system of this nature is an ambitious undertaking, and the nation is still only beginning to understand how to build this new culture of evidence. Clearly articulated expectations and accountability for all BTE partners and the students they serve are now, and will continue to be, key components of any successful school-to-career undertaking, including the BTE initiative.

High expectations on the part of the funding agency, the partners involved in carrying out the work, and the students and families whom they assist, go a long way toward ensuring the success of a partnership. Through its BTE initiative, Johnson & Johnson has called to action community partners committed to introducing high school students from a wide variety of social, ethnic, and economic backgrounds to an array of careers in health care by providing them with experiences that will positively impact their outlook on education and prepare them for careers in the health care industry. Johnson & Johnson's expectation is that the partners will create meaningful opportunities for BTE students, many of whom are from traditionally underserved populations. This, in turn, will encourage the students not only to graduate from high school, but also to acquire the skills and experiences necessary for them to complete a postsecondary program of study, and ultimately to find success in a health care-related career. This is a tall order, but one that two dozen BTE partnerships to date have worked hard to fill.

A partnership built around the high expectations of the funding agency means that the leadership must actively engage the various

partners to help meet the challenging goals and objectives the partnership has laid out. These goals are best achieved when clearly described in the original proposal and subsequent work plans. One evaluation team cautioned that in developing plans, “it is important to note that high expectations not realized can hurt program credibility.” It is better to promise less and deliver more, than to raise expectations of both the funder and the students and not meet them. Strong partnerships are formed around agreed-upon goals and a common understanding of the expectations for each partner involved. Setting reasonable and fair expectations of each entity can help reduce the likelihood that one organization will be left doing the work of the entire partnership and help individuals involved to focus their efforts. Many BTE partnerships employ articulation agreements to spell out roles and expectations for each party.

High expectations often fall short when partners feel there is no accountability. Therefore, Johnson & Johnson requires BTE partnerships to submit quarterly progress reports and annual work plans detailing the status of goals and objectives, share new challenges and successes, provide an overview of activities and technical assistance needs, outline budget status, and discuss future plans. Working with the National Alliance of Business until 2003 and now with AED NIWL, BTE sites develop action plans and receive technical assistance and capacity building support in a variety of areas. Johnson & Johnson also employs teams of external evaluators who work with each of the sites to identify areas of strengths and limitations. The evaluation teams’ findings are presented in periodic reports to Johnson & Johnson. When appropriate, AED NIWL, Johnson & Johnson, and the evaluation teams make recommendations for changes to ensure that the original goals of the project are met, if not surpassed.

Many BTE partnerships come across unexpected challenges, especially in the first year of funding, that make it difficult to accomplish the objectives of the partnership. The Roanoke, Virginia BTE partnership, for example, encountered problems, in part, because it was based in a newly opened charter school, which meant that it was in competition for student enrollment and funding and encountered political obstacles within the school system and business community. In addition to these challenges, the Spectacle Lens Group experienced production delays during the initial launch of BTE, which had the potential to limit



student experiences and interactions at the local Johnson & Johnson operating company. Despite the Roanoke BTE partnership's earlier challenges, it has been able to make progress toward its stated goals and objectives because of clearly articulated expectations of the funding agency which were reiterated by the technical assistance and evaluation teams.



# Setting the Bar

In Bridgewater-Raritan, New Jersey, BTE provides a fine example of a partnership that was designed around a set of clear performance expectations that greatly facilitated the institution of accountability. The partnership began in 1998 as a collaboration of the Business and Educational Partnership of Somerset and Hunterdon counties, Bridgewater-Raritan High School and Ortho-McNeil Pharmaceutical, the local Johnson & Johnson operating company. The partnership's focus was on reducing the gap between high school preparation in science and technology and the needs of business and industry.

Bridgewater was unique among BTE partnerships in building its curricula around two interrelated, yet distinct sets of objectives. The first closely paralleled Standards 1 through 5 of the Cross-Content Readiness Skills expectations of the New Jersey Department of Education Core Competencies. These standards called for students to develop workplace “know-how” competencies in the areas of:

- **Resources**—allocating time, money, materials, space, staff;
- **Interpersonal Skills**—working in teams, teaching others, serving customers, negotiating, and working well with people from culturally diverse backgrounds;
- **Information**—acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information;
- **Systems**—understanding social, organizational, and technological systems; and
- **Technology**—selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies.

These well-defined learning objectives were complemented by expected outcomes that were drawn from the Ortho-McNeil Team Member Competency Model and the Team Member Questionnaire. Specific competencies taken from these workplace sources were: demonstration of honest and ethical behavior and a pattern of treating people with respect; development of genuine listening skills; maintenance of openness to new ideas and confidentiality; planning ahead and observing work priorities; development of investigative-process skills

and systematic problem-solving skills; respect for cultural differences; adherence to, and support of, team member roles; building trust with others through honest communication and openness; and ensuring that verbal and written communication is clear, timely, and accurate.

These two sets of objectives guided the development of BTE curricula, class trips, consultation with Ortho-McNeil career coaches, and instruction, laboratory work, and group projects. Such clearly articulated objectives ensure that all partners are well-informed as to how the partnership will be held accountable, and by extension, how each partner can contribute to its overall success.

The Bridgewater-Raritan BTE partnership's clearly articulated expectations assisted the external evaluation team in their assessment of the partnership. Instead of spending considerable effort motivating BTE partners to establish clear evaluation goals, the evaluation team was almost immediately able to engage in the process of identifying measures for accountability. As the partnership solidified, these operational definitions of programmatic impact became important tools for increasing the effort of each partner and revising expectations.



## Links and Exposure to Higher Education

**“I would never have known how to apply, what kind of test scores you need, and certain other things that you need to do to get into college. I’ve learned so much and I wouldn’t have known any of it if I hadn’t gone on the college tour.”**

—Student  
San Jose, CA  
BTE Partnership

Careers in the fields of health care, science, and technology require specific skill sets and knowledge of health-related concepts. It is widely agreed that career success in these fields requires education and training beyond high school, and indeed, a commitment to life-long learning. Successful BTE partnerships must offer opportunities for youth to develop these skills and knowledge and educate them about avenues through which they can continue to grow, specifically through the pursuit of postsecondary education.

Therefore, a critical component of effective BTE partnerships is the provision of links to higher education through opportunities such as college tours, summer institutes on college campuses, dual enrollment opportunities, and assistance with college and financial aid applications. Many students have limited opportunities to learn about the array of educational institutions in which they can enroll—particularly those outside their immediate geographical area. Others lack confidence that they can succeed in college. Students whose families have financial constraints are often unaware of the external supports that are available to them through scholarships, grants, and other forms of financial aid. As a result, they prematurely assume that enrollment in a two-year or four-year college or university is not a viable option. A number of BTE partnerships include opportunities for students to physically spend time on college and university campuses. Exposure to institutions of higher education helps students realize that their goals are attainable and learn the steps needed to make these goals a reality.

Through partnerships with local colleges and universities, BTE helps students learn about the range of opportunities that are available to them after graduating high school. These partnerships can be formalized through articulation agreements which outline what each organization agrees to offer. Through an agreement between the

partners involved in the Cincinnati BTE partnership, for example, BTE students are given the chance to participate in a dual-enrollment program in which they can earn up to ten transferable college credits through Cincinnati State Technical and Community College. They are also provided an opportunity to attend a summer institute with credit-bearing classes on the college's campus. This exposure promotes students' understanding of the reasons why it is necessary to perform well in high school and motivates them to excel academically. Young people begin to understand how concepts learned in the high school setting can be applied to help them move on to postsecondary education and, ultimately, to careers in the health care industry.

This success is demonstrated through youth who are more deeply engaged in the learning process and have clear goals and high aspirations for when they complete high school. While it is difficult to determine whether BTE participants would have gone to college without the benefit of a comparative research design, it does appear that BTE students are better prepared to attend postsecondary institutions than their peers who did not participate in the program. A study of the effectiveness of the Arlington, Texas BTE partnership—whose stated goal was to “expose students to a university atmosphere” and to impress upon students the importance of higher education and career planning—demonstrates that BTE students experienced an increase in high school test scores and a higher undergraduate retention rate than their peers who were not involved in BTE. The report makes the case that the earlier students begin to focus on career pathways the more likely they are to complete their undergraduate education. Similar findings have been observed in other school-to-career evaluations.<sup>16</sup>

Connections to higher education should be an integral component of every school-to-career program. New partnerships can successfully implement this component by establishing strong relationships with local colleges and universities. Inviting representatives from these institutions to serve on a BTE Advisory Board is an effective strategy that helps to ensure strong, ongoing relationships.



<sup>16</sup> Macallum, K., Yoder, K., Kim, S. and Bozick, R. (2002). *Moving Forward: College and Career Transitions of LAMP Graduates*. Washington, D.C.: Academy for Educational Development.

## So *This* is College!

In response to the shortage of nurses in California, the San Jose BTE partnership, leveraging the BTE grant from Johnson & Johnson as well as funding from the Annenberg Foundation, established a Nursing Academy at Andrew Hill High School. The Academy, one of seven career pathways that students choose when entering the Medical Magnet Program at Andrew Hill, aims to motivate, educate, and inspire students to pursue postsecondary education and careers in the nursing and healthcare industries.

The success of the Nursing Academy over the last three years is evident. In an effort to provide students with the resources they need to pursue education and careers in the health care field, partnership leaders have created a curriculum that effectively combines classroom instruction built on hands-on learning opportunities, exposure to professional experiences through job shadowing and internships at local hospitals, and connections to higher educational institutions. The Nursing Academy curriculum permits students to earn college credit through articulation agreements with nearby Mission College, a public, two-year, community college. Nursing Academy students can take several courses through the college, including Diversified Health Care and Medical Terminology. This opportunity not only gives high school students a head start on fulfilling the educational requirements they need to secure a health-related career, but also introduces them to the skills and responsibilities necessary to complete a college education.

To further their experiences with postsecondary institutions, the Nursing Academy students also participate in several college tours throughout California, including San Jose State University, University of the Pacific, and University of California, Davis. These tours allow students to experience the schools firsthand, rather than merely read about them in informational pamphlets or on Web sites. Many students reported that they would not have had the means to visit these schools if they were not in the Nursing Academy. Furthermore, the college tours help students learn the steps they need to take in order to apply to college, and make them aware of programs outside of their immediate geographic areas. The Nursing Academy



instructors also assist students in completing college applications and obtaining information on applying for financial aid.

Establishing connections to higher educational institutions can be challenging and involve significant groundwork. Articulation agreements require review and approval by both participating institutions—in San Jose's instance the East Side Union High School District and Mission College. College tours involve a great deal of planning, including securing transportation and housing for a large group of students and coordinating meetings with representatives at the institutions they are visiting. However, the payoff in student matriculation, retention, and completion is well worth the effort. In San Jose, the partnership coordinator is dedicated to building these relationships with local colleges and universities. Each year students are able to take additional college-level courses and visit more schools throughout the state.

# Evaluation and Continuous Improvement

Successful implementation and attainment of BTE goals are achieved through commitment to a continuous-improvement approach that includes regular internal evaluations and site visits by external evaluators. Internal evaluation is managed by local personnel who regularly take account of the actions and progress they have made toward achieving stated goals. External evaluation, which is conducted by a third party through on-site visits, concentrates on the process of establishing a sustainable partnership, documenting changes in activities, and measuring their effects. Done on a regular basis, evaluation is a critical part of the continuous quality improvement of the BTE project and leads to sustainability.

Each BTE site designs and submits to Johnson & Johnson a project proposal, annual workplan, and an evaluation protocol, which must be approved before the partnership receives funding. Each partnership is assigned one of three evaluation teams based on geographical location. Comprised of university-affiliated faculty trained in education and evaluation, these teams work directly with BTE partnerships during the strategic planning phase to identify the partnership's goals, develop measurable outcomes, and discover specific strategies to ensure the success of the partnership. The evaluation team also develops an evaluation protocol and collects all relevant data. The role of evaluation—whether it is self-evaluation as in the quarterly reporting process, or external evaluation via on-site visits, focus groups, and written surveys—is to review the progress the partnership has made toward attaining its stated goals. These findings are then used as part of an action plan which serves to adjust strategies and efficiently allocate resources.

With the oversight of external evaluators, BTE partners continually ask themselves: To what extent is progress being made toward attaining the

**“Evaluation is successful when it stimulates positive change and improvement.”**

—Lisa Pittman and  
Frank Hammons  
BTE Evaluation Team



partnership's goals? What are the barriers to attaining these goals and what can be done to overcome them? In what areas is the partnership strong, and how can we capitalize on those strengths? What are our participants' perceptions of their experience? How will we sustain the initiative after the three-year grant period? To date, the answers to these questions have provided a tremendous volume of qualitative data and anecdotal evidence, but not many conclusive cause and effect inferences. Given the relatively short project time frames, BTE evaluations tend to be primarily formative in nature as the partnerships are still evolving during the first three years of existence—or the life of the Johnson & Johnson grant. Although specific student data collection is taking place, it should be noted that numerous data validity and reliability problems remain. For example, many BTE partnerships experience significant student mobility and attrition, which makes it difficult to study the population.

External evaluations and the site-visit process have increased the success of BTE. Based on their examinations of many other partnerships, external evaluators are intimately aware of the factors contributing to success. They draw on their experiences and research to offer each partnership constructive feedback, recommendations, technical assistance, and written validation of their accomplishments. It is important that BTE use this feedback to strengthen their partnerships, institutionalize their school-to-career activities, and secure new funding streams—perhaps even using the external evaluation teams' reports to solicit new funds—so that the partnership survives well beyond the life of the initial Johnson & Johnson grant.

# From Adversaries to Allies

In most public school settings, say the word “evaluation” and affected individuals immediately put up their guard. However, an evaluation process properly designed at the beginning of a project can serve as a way to continuously strengthen partnerships and their programs. Over time, most BTE partnerships learn that this continuous improvement process is not an intimidating ordeal. Johnson & Johnson and its BTE evaluation teams go to great lengths to reinforce the idea that evaluation is a management tool, not a punitive one, and it is designed to support the partnership’s growth.

A typical evolution of school-based attitudes toward the evaluation process is the following: Evaluators are a dreaded imposition at first—ready to point out all flaws and shortcomings. However, when criticism is delivered, it is done with sensitivity, exploring the challenges faced and offering suggestions on how to overcome them. By the third year, evaluation visits are embraced because the sites can demonstrate successes, report future plans, and ask for help with specific issues.

The Miami, Florida BTE partnership—which pairs North Miami Beach Senior High School with Cordis Corporation, a local Johnson & Johnson operating company—embraced the evaluation process, after an initial period of eschewing it. This BTE partnership began with an unfocused vision and developed into a self-sustaining biomedical magnet program. Through regular on-site visits, the external evaluators helped the Miami BTE partnership develop an action plan that focused the program’s attention on curriculum development and summer internship opportunities. This evolved into a successful program called the Biomedical and Environmental Advancement Magnet (BEAM).

Partnerships often experience the most difficulty during their first year. This was true of the Miami BTE partnership. Major challenges that arose and were ultimately conquered included: developing a viable high school biomedical curriculum and finding the appropriate faculty to teach it; maintaining open communication between the education and business partners; involving other local scientific/health industries; recruiting and retaining students; and developing work-based learning opportunities. With each visit, evaluators followed up on the progress made since

the previous visit and together everyone identified new challenges and suggestions that worked—a continuous improvement cycle.

Students in this partnership enjoyed summer internships at Cordis. The first year was a learning experience for all involved, but through the evaluation process of on-site observations, discussions, and surveying of students and Cordis supervisors, recommendations for improving this experience for students and their career coaches were enacted. Issues addressed ranged from more effectively matching student personalities and abilities with career coaches and internship positions, to preparing students with a background in appropriate workplace behavior prior to their internship.

Evaluation is successful when it stimulates positive change and improvement. The BTE evaluation process has assisted the implementation of the Miami BTE partnership’s program activities by providing external oversight, constructive feedback, best practices examples, and recommendations for continuous quality improvement. Further, having external evaluation reports that document the work accomplished throughout BEAM strengthens the partnership’s ability to attract additional funding. Today, BEAM has developed into an academically challenging bio-medical program that represents an outstanding school-to-career partnership with paid internship opportunities and career coaches at various science-related facilities throughout South Florida.

The evaluation team is now conducting a follow-up evaluation to track BTE students through their college years to determine the long-term impact of BTE.

# Institutionalization of Partnerships

**Sustaining a partnership requires sewing it into the fabric of each of the partnering entities' cultures.**

**S**uccessful BTE partnerships continually think about how to sustain and institutionalize their BTE programs so that they survive past the life of the Johnson & Johnson grant—thereby promoting long-term educational improvement. Institutionalizing the partnership is critical if it is to withstand changes in leadership, loss of funding, difficulties in recruiting and retaining students, or any of a host of other challenges that threaten the longevity of BTE partnerships. Sustaining a partnership requires sewing it into the fabric of each of the partnering entities' cultures. To do so calls for the cooperation of organizational leadership, which is why selecting appropriate managers and leaders is critical. For example, effective leaders can encourage active involvement in the partnership by linking participation to tenure or promotion, providing employees release time to participate in BTE functions, marketing the partnership within and outside of the organization, and making real commitments of resources. Embedding the partnership's programs within a school system's infrastructure, a university's standard course offerings, or a company's regular operations allows those programs to thrive independently of the personalities that launched the partnership and the resources that were originally allocated to it.

Several of the partnerships that did not institutionalize their programs while they were receiving funding from Johnson & Johnson saw their programs come to an end. Others took steps to ensure the longevity of their programs by: using the original BTE funds and evaluation reports as leverage for additional funding; managing and sustaining financial and institutional resources; developing committed and effective management and leadership through professional development activities; actively engaging students the partnership serves and their parents; strengthening relationships between partnering organizations; and building new relationships with other entities.

As mentioned earlier, strong management and leadership are critical to the sustainability of the initiative. Where strong leaders and committed staff can not be found, they often can be fostered. Effective leaders thrive when given access to professional development opportunities. These activities might take the form of scholarships for faculty members to attend seminars or training opportunities as the El Paso, Texas BTE partnership provided to faculty of the Escuela de Enfermeria through local nursing schools. Moreover, internships are valued by teachers as well as students. Instructors at North Miami Beach Senior High School who participated in the Miami BTE partnership worked alongside their students at the Cordis Corporation. The teachers had the opportunity to enhance their skills by trying their hand at various aspects of project planning, operations, and research. For teachers, experiencing the practical application of the academic concepts they are steeped in every day can be revitalizing. Likewise, focus groups and surveys conducted by the BTE evaluation teams reveal that career coaches and supervisors at participating Johnson & Johnson operating companies relish the opportunity to supervise and educate young people, and feel that BTE students contribute positively to organizational operations. Through professional development activities, the leadership can continually foster the growth of potential successors and empower all involved with the requisite skills and knowledge to move the initiative forward.

Managing the partnership's human and capital resources effectively—with a vision for what will occur after the life of the initial start-up grant—is critical to the long-term success of the initiative. Research based on a number of school-to-career programs shows that sustainability is, in large part, reliant on a strategy that actively involves all key partners and is supported by a number of different funding streams.<sup>17</sup> Those involved in BTE over the past decade know that strong leadership is vital to the success of a partnership, but that the future of the initiative can not be solely dependent on the individuals leading it. As leadership inevitably changes, partnerships must establish contingency plans to avoid a disruption or, worse yet, dissolution. Likewise, the entities that make up the partnership must regularly evaluate the roles of each of the partners, and determine whether or not the new partners would strengthen its foundation.



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<sup>17</sup> American Youth Policy Forum & Center for Workforce Development, Institute for Educational Leadership. (2000). *Looking Forward: School-to-Work Principles and Strategies for Sustainability*. Washington, D.C.: American Youth Policy Forum & Center for Workforce Development.

While a strong partnership and effective leadership are important to the institutionalization of an initiative, adequate financial resources are essential. For most partnerships this is a constant source of concern as the end of the grant cycle can often mean the loss of a staff position, the end of an activity, or even the demise of the partnership itself. Competition for scarce resources often makes it difficult to secure funding. However, partnerships that are able to demonstrate their success and commitment to continuous improvement gain a competitive advantage. The evaluation process employed in BTE not only provides the sites with objective formative assessments that inform immediate improvements, but also provides the sites with a final evaluation that can be used to market the partnership and solicit additional funding even before the end of the BTE grant.

Approximately one-third of the BTE partnerships that Johnson & Johnson has funded over the last decade have been able to sustain activities and resources developed under BTE since the end of the grant. Rochester's career center, Roanoke's science laboratory, and Milpitas' diabetes curriculum, all of which have become established parts of schools and other partnering organizations in those communities, are just a few examples of the kinds of lasting effects a partnership such as BTE can have.



# NEW DIRECTIONS FOR BRIDGE TO EMPLOYMENT

**B**uilding on more than 10 years of experience and incorporating the lessons learned, Johnson & Johnson will expand the reach and scope of BTE in the coming years. In 2005, the organization will launch an international component of BTE, and pilot a new regional approach to the initiative. Johnson & Johnson will also revise its funding structure and timeline to better encourage and support comprehensive strategic planning efforts. These new directions will bring additional resources and extensive technical assistance to future partnerships in the United States and abroad.

## Revising the Funding Structure and Timeline

The rigorous BTE application and start-up process is challenging to potential sites as they are required to meet pre-established criteria, participate in partnership design and partnership-building activities, complete a grant application, and develop a workplan. Systematic evaluation has found that even successful initiatives struggle in their first year of funding. Recognizing that strong and effective community partnerships take time to develop if they are to be sustainable, Johnson & Johnson will emphasize and encourage extensive strategic planning efforts by providing an initial one-year, \$10,000 planning grant award combined with technical assistance to new grantees prior to the onset of the three-year partnership-implementation funding cycle. Moving to a four-year BTE grant cycle and providing additional resources will enable each BTE partnership to build on their community's unique strengths, develop respect and trust among partners prior to the official launch, encourage collaboration and communication, and promote

## New Directions

- Revising the funding structure and timeline
- Piloting a regional approach
- Taking BTE international

sustainability. Current and past BTE partnerships have relayed to AED NIWL and Johnson & Johnson that additional time and resources would likely help partnerships become operational by their time of launch, compensate sites for planning and management, and assist in sustaining the work that they do.

## Piloting a Regional Approach

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In an effort to leverage and expand the reach and influence of individual local operating companies, Johnson & Johnson will pilot a regional concept, where multiple operating companies join together to design and implement a single BTE partnership. In 2005, three Johnson & Johnson operating companies in California's South Bay area—Scios, Alza, and LifeScan—will collaborate to launch a unified BTE partnership. By utilizing the unique expertise located at each of the three companies, students and teachers will be exposed to the diversity of health care careers through tours, guest lectures, hands-on laboratories, and internships and externships. These experiences will strengthen students' awareness of what the future holds. Teachers' knowledge of "working science" will grow, which will help them show their students the connection between their classroom and their possible futures in the business or health care fields. This collaborative model will ease the responsibilities placed on each operating company to ensure a successful partnership. By working with additional schools, this BTE partnership will have an effect on a larger number of students, and has the potential to stimulate collaboration and involvement among additional health care and biotech companies in school-to-career efforts.



## Taking BTE International

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Johnson & Johnson's interest in healthy futures for children and communities globally, the location of Johnson & Johnson family companies around the world, and the success of the signature BTE partnership in the U.S., suggests a clear opportunity to help promote the development of health care workers in other countries. Addressing career development for young people and intervening to develop the

supply of health care workers in the labor market are new and innovative activities in the humanitarian field of international development. Creating an international partnership addressing these issues will help position Johnson & Johnson on the cutting edge of such efforts and will advance the field through pioneering new international and collaborative public-private ventures.

In 2004, Johnson & Johnson began to seriously explore the opportunities, challenges, and feasibility of expanding the BTE initiative by launching new sites abroad. Johnson & Johnson maintains local operating companies in nearly 70 countries worldwide. AED, an international educational and development non-profit and Johnson & Johnson's partner in managing the BTE initiative, has a physical presence and extensive experience in over 160 countries. Together, potential sites for the initial international BTE partnership sites are being explored. Communities in Latin America, the Netherlands, and Ireland appear poised to launch new partnerships.

While this opportunity is exciting, it is recognized at the outset that unique challenges will need to be overcome in taking a historically U.S.-based program into the international arena. BTE is geared to the U.S. education system and pointed towards the need for health care workers in the American economy. It is unlikely that BTE will be replicated wholesale in another country, but instead will be adapted to align with local educational, economic, and cultural realities. At the same time, the flexibility that BTE funding affords grantee partnerships avoids typical concerns about "strict fidelity to the model" and encourages local adaptation. In 2005, the first international BTE partnership will be launched by three local operating companies, Centocor, DePuy, and Janssen Pharmaceuticals, in Cork, Ireland. By looking beyond domestic borders and creating an international partnership that focuses on and addresses these issues, Johnson & Johnson is not only expanding the outcomes of a successful partnership, but also pioneering new approaches.

**The flexibility  
that BTE funding  
affords grantee  
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encourages local  
adaptation.**

# RECOMMENDATIONS



**T**he following recommendations are geared toward schools, business, and funding agencies interested in becoming involved in Bridge to Employment or other school-to-career initiatives. Based on the experience of the BTE site coordinators, BTE evaluation teams, AED NIWL technical assistance team, and representatives within Johnson & Johnson World Headquarters, these recommendations summarize some of the knowledge gained over the last ten years of work on the BTE initiative.

## Recommendations for Schools

- Balance academic supports with professional exposure. While exposure to applied learning experiences is extremely beneficial, it is also crucial to provide support to the students academically. This can include mentoring or tutoring, professional and health-related terminology education, engaging parents to keep them abreast of students' academic needs, and providing assistance with college and financial aid applications.
- Ensure that students have an engaging and challenging work-based learning experience that is highly structured and requires student self-evaluation as well as feedback from supervisors. Use proven student performance measures as a guide for partnership outcomes. Regularly collect and monitor these data to quickly identify students who might need special assistance.
- Use a structured curriculum to tie the students' professional experiences back to the academic setting. Develop a plan for integrating the work students are doing with their Johnson & Johnson career coaches into classroom exercises. Then, as students

receive classroom instruction they can apply this learning to a professional setting. This cycle of learning helps to reinforce the skills and concepts the students are gaining.

- Provide teachers, faculty, and staff with professional development opportunities that help them develop new curricula and employ new instructional strategies. Provide opportunities for teachers to participate in their own work-based learning experiences so they can bring real-world relevance into their classroom instruction.
- Work with the school administrators to ensure that the students who participate in the program not only receive academic credit for their participation, but also recognition for their involvement. Future initiatives should work with school districts to make school-to-career programming available to students at every high school and middle school, especially for students at-risk of academic failure.

## Recommendations for Businesses

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- Establish an actively engaged steering committee that includes businesses and educational organizations. This committee should review and revise curriculum, interact regularly with the students on challenging projects that reinforce classroom lessons and activities, and provide students, teachers, and administrators with opportunities for work-based learning.
- Offer a variety of applied-learning experiences that are meaningful and informative to the students and that are not short-lived. Students see the greatest positive impact when they are provided with engaging and in-depth experiences.
- Tie employee participation in the school-to-career partnership to employee promotions, bonuses, and other rewards.
- Provide adequate release time to allow interested staff to become actively involved in the initiative.
- Make the partnership an on-going relationship between your organization and the other partners involved. Work with the

partnership's leadership to secure funding from a variety of sources, including other businesses with which you have a relationship.

- Identify a lead coordinator to serve as the liaison between youth, community, and school partners. Be sure to document protocols established to employ youth.

## Recommendations for Funding Agencies

- Make rigorous evaluation by an external party an integral part of the design of the partnership, not an afterthought. Evaluations that are unfavorable should lead to technical assistance and changes in the partnership design and/or implementation emphasizing continuous improvement over monitoring. Creating a uniform set of data requirements across each partnership is helpful for comparison, and critical in determining best practices.
- Work with an intermediary organization that is experienced in providing technical assistance and capacity building support to school-to-career partnerships.
- Hold grantees accountable for meeting their goals and objectives by requiring regular reports. Technical assistance should be provided as needed.
- Fund partnerships for an appropriate period of time so that their programs are able to get underway and begin to sustain themselves, and so that evaluations of the partnerships' impacts are possible.
- Consider joining with other funding agencies to provide funding for a greater number of partnerships and/or greater amounts of funding for each partnership.
- Allocate time and funding for a follow-up evaluation to see if the partnerships yield the expected outcomes.
- Provide opportunities for grantees to share challenges, successes, and lessons learned with one another and with the funding agency. Include activities that allow grantees to network and build rapport with one another.



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# A Decade of BTE Partnerships

BTE Partnership	Grant Award
Arlington, TX	1995-1998
Bayamon, Puerto Rico	1995-1999
Los Angeles, CA (1)	1996-1999
New Brunswick, NJ (1)	1996-1999
Raynham, MA	1996-1999
Rochester, NY (1)	1996-2000
Albuquerque, NM	1997-2001
Cincinnati, OH (1)	1997-2000
El Paso, TX/Juarez, Mexico	1997-2001
Miami, FL (1)	1997-2000
Bridgewater-Raritan, NJ	1998-2001
Guaynabo, Puerto Rico	1998-2002
Bound Brook, NJ (1)	1999-2000
Jacksonville, FL	1999-2003
Trenton, NJ	1999-2002
Miami, FL (2)	2000-2003
Cincinnati, OH (2)	2001-2004
Milpitas, CA	2001-2004
Roanoke, VA	2001-2004
Kennett Square, PA	2002-2006
San Jose, CA	2002-2005
Caguas, Puerto Rico	2003-2006
Los Angeles, CA (2)	2003-2006
New Brunswick, NJ (2)	2003-2006
Cincinnati, OH (3)	2004-2007
San Diego, CA	2004-2007
Wilmington, DE	2004-2007
Bound Brook, NJ (2)	2005-2009
Cork, Ireland	2005-2009
Rochester, NY (2)	2005-2009
South Bay, CA	2005-2009



## Learn More About the Bridge to Employment Initiative

For more information about Johnson & Johnson's Bridge to Employment initiative, including profiles on each of the current and past BTE sites, BTE-related resources, and links to related projects and organizations, please visit the BTE website at

**<http://www.bridge2employment.org>**



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