



Annual Report

2010-2011

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Month Day Year

Month Day Year

**Executive Summary**

The Center of Excellence for Information and Computing Technology’s (CoE for ICT) housed at Bellevue College has three primary commitments in serving the community and technical college system (CTC) in its entirety are:

1. Provide high-quality, effective, free and/or reasonably priced innovative opportunities such as events, services, research, resources for ICT educators.
2. Partner, recruit, solicit advice and input, as well as sponsorships and in-kind donations, from industry to better align CTC students educational experience to current and future workforce needs, as well as utilizing the expertise from the industry advisory board to inform strategic Center objectives.
3. Present transparent information related to state-funded work Center products and programs so stakeholders are confident of: 1) cost-efficiencies; 2) a return on the annual investment; 3) the evaluative data demonstrating success; and, 4) tangible system value.

The Center developed and implemented the following annual and new events, resources, research, services, and a community forum for the 2010-2011 year:

**Events**

* STEM Summit
* Careers in IT: The Real Story
* Futures Summit at Microsoft
* Working Connections Faculty Development Institute

**Resources**

* Advisory Board and CoE Advisr.org
* CoE for ICT Website
* Event Videos featured on Center Website
* *Five Minutes in the Life of an ICT Professional* (five video interviews)
* High Impact Centers of Excellence Report
* ICT Program Directory
* Miscellaneous Projects, Services, (i.e. free textbook giveaways, career pathway advice to students, etc.)

**Research**

* *Emerging Workforce Trends in Information and Computing Technology 2011 to 2018…STEM Career Pathways for the Washington State Community and Technical College System*

**Services**

* ICT Consulting (upon request)
* ICT Review

The Center of Excellence’s 2010-2011 annual report highlights Center events, resources, research, services, reviews its processes, and details the state’s return on investment. This report: 1) showcases achievements; 2) describes Center impact on the community and technical college (CTC) system as a whole; 3) documents connections made between industry and educators; and, 4) examines cost savings by focusing on six selected Center initiatives.

The return on investment based on a selection of eight events, resources, research, services, or activities approximates **$243,806**. The annual core funding for the Center is $120,000, with performance funding at a minimum of zero to a maximum of $50,000. The aggregate return on the combined value of the seven highlighted Center projects and initiatives exceeds the annual core and performance funding by **$73,806**.

**About the Center of Excellence for Information and Computing Technology**

The Center is a statewide resource for the CTC system, K-12 educators, and builds crucial relationships with information and computing technology industry professions in order to leverage:

* Best practices for ICT education, professional development opportunities, and events to create opportunities for faculty and students to collaborate with industry.
* Up-to-date research, including ICT trends that impact hiring, educational needs and business growth across industry sectors in Washington State.
* Products, services, consulting, resources, community forums, and research to ensure faculty receive pertinent access to information regarding new and emerging technologies as well as changes in workforce demand.
* K-20 faculty professional development opportunities and student-centric events that focus on informing students about careers in information and computing technology.
* Industry research to keep educators informed on emerging technologies that translates into updated programs, curriculum, and best practices.
* Pathways through better educational system coordination to assist in building seamless educational and work-related systems.
* Deliver effective, efficient, industry-relevant professional development training to build a competitive workforce for Washington State.

**Center Personnel:**

Maureen Majury is Director for the Center of Excellence for Information and Computing Technology. She manages Center initiatives, services, and activities including: the annual *Washington State Working Connections IT Institute*, *Careers in IT: The Real Story*, the *IT Futures Summit at Microsoft*, the Center’s website, and, the quarterly CoE for ICT newsletter.  She also performs CTC degree and certificate reviews and subsequent reports based upon the finding, as well as provides consulting services.

New Center activities and initiatives for 2010-2011 included: the publication of the Washington State CTC ICT program directory, ICT CTC degree and certificate review for seven colleges, *The Stem Summit*, the *Emerging Workforce Trends in Information and computing Technology 2011 to 2018…: STEM Career Pathways for the Washington State Community and Technical College System* research publication, new updates and improvements to the CoE website, formalized advisory board meetings, the CoE Advisr.org, Twittering, a video series *5 Minutes in the Life of an IT Professional* for students and CTC faculty.

Ms. Majury also provides fiscal management for National Workforce for Emerging Technologies. Some of her past projects include updating the Cyber Security and Information Assurance skill standards with CSSIA and acting as PI on the IT Skill Standards update project.

Ms. Majury received her M. Ed. (Leadership and Policy Analysis Studies), a B. A. in English and history, and a two-year secondary teaching degree, all at the University of Washington.  Ms. Majury developed leadership curriculum and provided program advice as a part-time faculty for the college’s Leadership Institute managed by Student Programs and offered through the Human Development program. She has worked at Bellevue College from 1992 until present.

**Center Strategies**

The Centers were codified into statute during the 2009 legislative session in SBH 1323. It is the role of the centers of excellence to employ strategies to: Create educational efficiencies; build a diverse, competitive workforce for strategic industries; maintain an institutional reputation for innovation and responsiveness; develop innovative curriculum and means of delivering education and training; act as brokers of information and resources related to community and technical college education and training for a targeted industry; and serve as partners with workforce development councils, associate development organizations, and other workforce and economic development organizations.

***The following are 2010-2011 Center strategies.***

**EVENTS**

[](http://vimeo.com/22849037) **STEM Summit**

The two-day Summit introduced IT CTC faculty and IT high school educators to K-20 best practices in education focusing on innovative teaching and learning in STEM. Dr. Arthur Benjamin, Harvey Mudd College, keynote, started off the Summit with an hour-long presentation on math; statistics; higher education; math magic; a national perspective on student math achievement; and, how math mastery is essential for our economic well-being.

The attendees were presented with an industry and educator perspective across four industry sectors (Aerospace, Allied Health, Construction, and Information and Computing Technology) in presentations and panel discussions that examined how economic strength for Washington State is directly related to preparing students for career pathways in STEM. Best practices in STEM teaching and learning were highlighted and shared during the second day of the event.

Attendees learned:

* The four industry sector perspectives from professionals who shared STEM -related emerging technology and workforce trends.
* From educational colleagues strategies for incorporating STEM in the classroom

The event was sponsored by four Centers (Aerospace, Allied Health, Construction, and ICT)

See *Appendix I* for evaluative data. **System savings: $14,594 (includes in-kind donations)**

** Careers in IT: The Real Story**

Students, teachers, faculty, counselors, and career specialists are annually invited to bring their students to *Careers in IT: The Real Story*, to learn how important information and computing technology (ICT) is to their future.  *Careers in IT* is a free, half-day event.  The 6th annual event took place on April 20, 2011.  It is an excellent opportunity for students to consider and plan for an ICT degree at a two-year community or technical college.

Students, K-20 educators, paraprofessionals, and administrators have a chance to listen to an industry professional’s keynote speech relevant to the changing workforce needs. For example, this year, given the challenging economy, the keynote shared 1) how students can stand out in an increasingly competitive job market; 2) how to maximize their educational experience, including internships or extracurricular activities; 3) how upcoming graduates can take proactive steps to better prepare themselves for the job market; and, 4) hear about new or emerging technology trends that may have a direct impact on the development of new career pathways.

Each year the event features an industry keynote speaker, panelists from a variety of IT organizations, who speak about their careers, experience in colleges, preparation for a career in IT, and what their daily challenges and opportunities are, as well as answering attendee questions.  Donated prizes are typically raffled off. Microsoft has sponsored the last four year’s prizes and giveaways, including the Xbox 360 as well as video games. See *Appendix I* for evaluative data. **System savings: $16,535 (includes in-kind donations)**

 **The Life of an IT Professional: A Five Minute Story**

The Center developed a video competition to promote awareness and interest about careers in information and computing technology. A recognition award was made to Robert Johnson, Jr. of Shoreline Community College for his video interview of Carl Williams, an I.P. Support Specialist at Comcast. Eight industry professionals who also serve as the Center’s advisory board unanimously selected Mr. Johnson as this year’s recipient of the recognition award. Four other videos featuring IT Professionals from Microsoft, Bellevue College, F5 Networks and Le Moyne College were created and all videos are available for viewing on the Center’s website. **Systems saving: $6,000**

**The Washington State IT Futures Education Summit**

The Summit is an annual one-day free event at the Microsoft Corporate Conference Center, Redmond, Washington. Technical and workforce development instructors across the state discovered new and innovative ways to improve IT education. This event features Microsoft, industry, and CTC speakers in various disciplines of IT who share the impacts, challenges, growth and demands of technology.

The Summit offers attendees the opportunity to:

* Learn about current upcoming technical skills sought by businesses
* Focus on integration of new technologies and strategies for classroom learning
* Choose a break-out session with industry and faculty co-presenters for a specific area of interest
* Network with other instructors to build a community amongst our institutions

This year’s keynote speaker was Mr. Larry Nelson, Director of Information Technology Developments, Microsoft, who addressed *Workforce Readiness: For and Through the Cloud.* Past speakers have included Mr. Jon Perera, General Manager for the Education Products Group, Mr.  Jim LeValley, Group Product Manager for the Academic Segment, Microsoft Learning at Microsoft Corporation (“Job Market Outlook for IT Professionals”); and, Mr. Martin Bean, Managing Director of Education for Worldwide Public Sector at Microsoft Corporation in Redmond, Washington. See *Appendix I* for evaluative data. **System Savings**: **$30,284**

 **Working Connections IT Faculty Development Institute**

The Center hosted the tenth annual Washington State Working Connections IT Faculty Development Institute from August 24th to August 26th, 2010.

The following tracks were offered:

* Adobe Creative Suite 5 (Instructor: Ron Austin, Adjunct faculty at Bellevue College and other local community and technical colleges)
* Office 2010 (Instructor: Letty Barnes, Lake Washington Technical College)
* Office 2010 (Instructor: Suzanne Marks, Bellevue College)
* SharePoint 2010 (Instructor: Paul Stubbs, Microsoft)
* Visual Studio 2010 (Instructor: Dan Waters, Microsoft)

The Institute’s 81 participants came from 23 of the 34 Washington state community and technical colleges, as well as the Puget Sound Skills Center, St. Joseph’s College, and Port Townsend High School. The Center’s fundraising activities generated $27,150 in in-kind donations (software, textbooks, product giveaways, etc.) **System Savings: $54,635.**

Sponsors contributing to Institute success:

* Bellevue College Foundation
* Center of Excellence for Information and Computing Technology
* Microsoft
* Murach Publishing
* Paradigm Publishing
* Pearson Publishing

Bellevue College and its program and service departments provided institutional support. See *Appendix I* for evaluative and return on investment data.

**RESOURCES**

**Center of Excellence for Information and Computing Technology Website**

The Center’s website objectives for 2010-2011 were to:

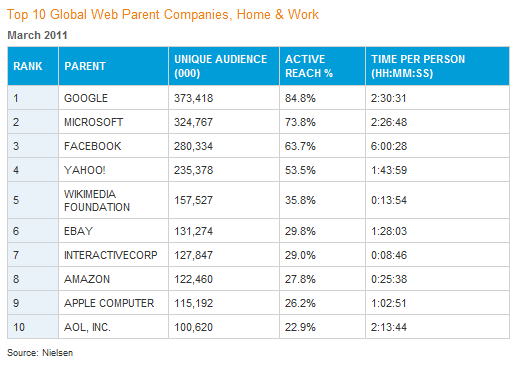
* Perform general web maintenance, update and redesign for an increased usability, and upgrade to the next version of Word Press.
* Increase content (especially video), keep data current, and maintain transparency by posting evaluative and ROI data.
* Create a CoE Advisr.org website for the Centers large network of industry professionals to create a resource for quick access to their advice, as well as use it for information and computing technology degree/certificate reviews.
* Take advantage of all the innovative and creative tools and applications that make a website more accessible, inviting, and user-friendly.

The main goal is to provide access to valuable information to our state’s CTC Information Technology (IT), Computer Science (CS), and Business Technology (BT) educators so they can:

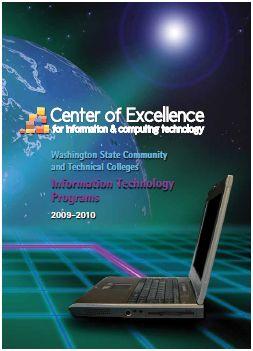
* Stay abreast of current changes in the ICT space;
* Keep current with issues regarding technology;
* Understand how workforce evolving needs affect development of college programs, curriculum, and ultimately impact the career pathway of the K-20 student;
* Learn how the CTC system can help educators implement change through professional development training, keep current on emerging technology trends, as well as connect with each other to share best practices and learn from each other; and,
* Continue educator collaborations to with other CTCs to assist them in graduating students who either successfully enter the workforce or articulate to a four-year institution.

**Website Data:**

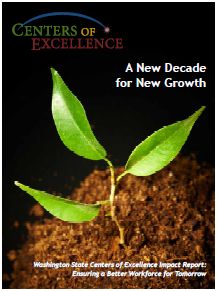
* **14,908 visits (an increase of 140% from 2009-2010’s 6,211 visits) between September 2010 and June 2011.**
* **12,351 new visitors (an increase of 159% from 2009-2010’s 4,767 new visitors) since the website was officially launched September 1, 2009**
* ***Average time on site/Unique Visitors:* 1.51 minutes /12,531 in the last twelve months (Note: To give a context the number five and number seven global positions are at 13.54 and 8.46 minutes respectively with 157,527 and 127,847).**



**Ongoing System Savings: $9,108 (12 months X 30 hours per month X $25.30)**

** ICT Program Directory (December 2010)**

The directory was completed in December 2010 and distributed January 2011. It’s available at no cost as a PDF and almost all of the printed copies have been disseminated. The directory devotes one page to each of the 34 CTC’s ICT programs and details the title(s) of the program, a program overview, the technical knowledge and skills students will have gained by the time they graduate, degree and certificate options and who to contact for further information.  All 300 copies were disseminated to educators, students, workforce administrators and personnel, and career counselors. This is an excellent resource for career counselors, academic advisors, students, parents and industry to review, compare and consider career pathways leading towards a career as an information and computing technology professional. All CTCs will have an opportunity to submit updates to their program details on an annual basis.  The next call for updates will be December 2011.

**High Impact Report, *A New Center for New Growth: Ensuring a Better Workforce* for Tomorrow**

The Center took the lead in co-developing an impact report to: 1) demonstrate the state’s return on investment; 2) highlight positive achievements; 3) describe individual center impact on the community and technical college (CTC) system as a whole; 4) demonstrate connections made between industry and educators; and, 5) report cost savings by showcasing ten selected Center events, products, projects, research and services.

The report will be presented at the next Workforce Education Council’s quarterly meeting. Content includes an executive summary, Center descriptions, individual initiatives and associated system savings (or, the return on the investment), as well as a vision for 2011-2012. The Center of Excellence for Information and Computing Technology compiled and funded the publication of the Impact Report on behalf of the Centers of Excellence.

**RESEARCH**

 ***Emerging Workforce Trends in Information and Computing Technology 2011 to 2018…STEM Career Pathways for the Washington State Community and Technical College System* Report**

The Center researched, wrote, and published the *Emerging Workforce Trends in Information and Computing Technology 2011 to 2018…STEM Career Pathways for the Washington State Community and Technical College System* report in March 2011. The report looked at how information and computing technology (ICT) both informs and influences technological advancement and innovation across industry sectors, while relying on mastery of specific fields by students in science, technology, engineering, and math (STEM). It was important to demonstrate the connectivity between the CTC system and workforce development and demand. Additionally, the report presents current and projected data to help state educational administrators consider programmatic and curricula content updates, provides faculty with workforce projections, occupational profiles, current job descriptions, and programs that are built around future statewide, national, and global forecasting. **System Savings: $65,200**

**Services**

 **Information and Computing Technology College Program Review**

The CoE for ICT recruited over 29 information and computing technology industry professionals to review seven current Washington State CTC program degrees and certificates. Each review team looked at the composition, title, course titles, and course descriptions for each of the six degrees or certificates submitted. The seven community colleges below were not charged for this service.

* Green River Community College
* Lower Columbia College
* Lake Washington Technical College
* North Seattle Community College
* Olympic College
* Seattle Central Community College
* Skagit Valley College

Each college received a report documenting methodology, detailed suggestions for degree or certificate titles, course titles, descriptions, and a high-level industry demand scan. Follow up activities continued through June 2011 and beyond. See *Appendix I* for evaluative and return on investment data. **System savings:** **$47,450**

This is wonderful for us.  We are in transition with our program, as we are losing one faculty member due to retirement, who won’t be replaced due to budget cuts.  As we figure out how best to meet all the needs of our students and community, we especially appreciate the outside review.  I really look forward to reading through the documents and using the recommendations/observations while we continue our work.  Thank you for your and the committee’s work on this. - Pamela Bilodeau, MS-CIS, MCP+I, MCSE, A+, Professor, Computer Information Systems Olympic College

# Industry Sector Strategies

* The Center works with multiple ICT industry professionals on the majority of its events, creation of resources, research, and service offerings. Industry professionals from the following companies include: Boeing, Microsoft, AT&T, T-Mobile, the City of Tacoma, Cisco, F5 Networks, Wells Fargo, and Click Networks. They work with the Center to review and design curriculum, participate as keynote speakers and industry panelists, make multiple presentations on new trends and emerging technologies, act as sponsors either with in-kind or limited monetary donations on specific projects or programs, and provide guidance and information when making decisions on select Center initiatives and project assessment and progress.
* The industry partnerships developed by the Center have increased in size and quality. The ability to effectively use these relationships for the Center and its constituents benefit has substantially increased. The Center held its first two industry advisory board meetings (eight members) during the year, and is planning its third for summer 2011. The Center is extremely grateful for its industry partners as they have come through for the Center on multiple occasions, including the STEM Summit, Careers in IT: The Real Story, the IT Futures Summit at Microsoft, the ICT Reviews, the research report, judging the video competition, and the website.
* The economic impact on what industry can and cannot do has increased opportunities more than one would expect. The Center has found industry professionals are more willing to spend quality time in providing advice, reviewing projects, participating on panels, providing resources, making referrals, and attending focus groups since they cannot provide monies. While this has negatively impacted discretionary funding that was made possible through non-state revenues, it has positively impacted the quality, quantity, and value of the human capital that the industry professionals provide. Subsequently, the projects, programs, services of the Center have improved because of more direct access to industry professionals.
* The eight center initiative selected above represent a total system savings of **$243,806**. The cost analysis includes in most cases the value of in-kind donations. Evaluative data including ROI is posted to the Center’s website upon completion of programs and projects. The formula is as follows: Expenditures minus for-profit market value (at least three cost assessments are averaged to create the market value), plus in-kind or cash donations, equals system savings or return on investment. In-kind revenue totaled **$101,655**.
* The ICT Review service continually prompts thoughtful review and in the majority of cases, substantial change to degrees and certificates as well as curriculum review and redesign by the state’s colleges. Again and again, the Center hears from both Workforce administrators and faculty that they 1) took the review seriously, and b) made significant changes to their programs, including redesigning the entire degree, renaming the degree, updating course descriptions and content. The Center has heard from Big Bend, Cascadia, Everett, Lower Columbia, North Seattle, Olympic, and Seattle Central Community Colleges that it made a difference in how they looked at their own degrees and certificates.
* Industry-generated presentation materials (PowerPoint, video, documents) are made available after programs and projects to the system through the Center website, e-newsletters, and upon request. Examples include the IT Futures Summit PowerPoint presentations; the STEM Summit, IT Futures Summit, Careers in IT: The Real World, and the Working Connections video. These presentations feature industry speakers who:
  + share industry trend information;
  + explain how to use new applications and programs; and,
  + provide updates on current and projected sought-after technical knowledge and skills which are made accessible in a number of different formats.

Presentations are then published on the Center website and also sent out in digestible formats through e-newsletters and list blasts. Industry professionals also inform the topics that are featured at the Centers annual events, including Careers in IT: The Real Story, the IT Futures Summit, and the STEM Summit, and the Working Connections Institute.

# The CoE and Industry Relationship: How Does it Work?

Industry shapes the work plan primarily because three of the main events produced by the Center are informed and planned in partnership with industry and features multiple industry professionals as keynote speakers, panelists, and presenters. Industry is asked for advice on which topics to include, which training tracks to offer, which text books to select, which industry expert would make the best keynote, presenter, or panelist, if using beta software which industry professional should teach the training track. Industry professionals are heavily consulted in any curriculum or program reviews and are utilized as subject matter experts in any development of new curriculum.

The Center implemented its plan for 2010-2011. It reviewed all of its industry professionals and invited nine (the current number is eight as a Bellevue College employee left the college) to serve as members of the industry advisory board. The board decided upon three annual meetings. The virtual advisory board website (CoE Advisr.org) was developed and provided an extremely useful tool in communicating with industry, as well as performing an actual ICT review.

# System Collaboration and Cooperation: Serving the CTC System

A core principle for the Center is to collaborate with, partner with, and provide easy access for its services, events, programs, products, resources to the CTC system. It has partnered with, collaborated with, or served every college in the CTC system that has an information, computing, or business technology program. The projects, services, programs, etc. detailed in the  *Center Strategies* section (page six) demonstrate outreach, access, and shared ownership of what the Center provides with all colleges. The Center has also collaborated or provided services or products that benefit all Centers, regardless of industry sector. Many of the projects or initiatives listed above will continue and this maintains the Center’s commitment to serving the CTC system as a whole. It is of course, contingent upon sustained core and performance funding, and that will enable the Center to continue to do what it does best; enhance opportunities for educators to align curriculum to industry workforce needs to successfully prepare a work-ready graduate or prepare a student for successful articulation to a four-year institution.

The Center has collaborated/cooperated with state CTCs participating, accessing information, using services, advising, and collaborating with the Center through the following events, resources, research, services, and “our community”:

* Careers in IT: The Real Story
* CoE for ICT Website
* High Impact Report (for WEC)
* ICT Program Directory
* ICT Review
* IT Futures Summit
* Life of an IT Professional: A Five Minute Story (video competition)
* Miscellaneous Projects, Services, etc.
* STEM Summit
* Trends Report
* Working Connections IT Faculty Development Institute

The Center collected data on the number instances of participation, accessing information, using services, advising, and collaboration with the Center for the 34 CTCs. The graph on page 18 documents instances of serving the CTC System for 2010-2011.

18% instances of serving the CTC system 3-4 6

26% instances of serving the CTC system 5-6 9

47% instances of serving the CTC system 7-14 16

9% instances of serving the CTC system over 14 3

The numbers have increased for both the number of instances where the Center in some way served a community or technical college. The number of CTCs utilizing the Center’s wide variety of products and services at least five or more times is now at 82%. The number of CTCs using the Center four times or fewer has been reduced from 26% to 18%. Efforts to continue to reach out to these institutions will continue.

# The Bridge between K12 System

The Center has worked to facilitate transitions from the K-12 to the CTC system through the STEM Summit; Careers in IT: The Real Story; and Working Connections professional development opportunity for K-20 educators to learn new technologies and form collaborative relationship as they discuss the students transition from K-12 to the CTC system. The STEM Summit, Careers in IT: The Real Story, IT Futures Summit, and the Working Connections Institute are all open to K-12 teachers and participation and interest has increased even more than the prior year.

The Center’s reach to the K-12 system was improved by an updated database that now has almost 1,500 email addresses. The increased participation by K-12 educators is due to 1) getting out the message to many K-12 educators who previously would have been unaware of Center offerings and 2) good word-of-mouth advertising from educators who had already participated in, or took advantage of a service or resource and were repeat “customers” or told colleagues about Center offerings.

75% instances of serving the K-12 system 2-3 27

11% instances of serving the K-12 system 4-5 4

3% instances of serving the K-12 system 6-7 1

11% of instances of serving the K-12 system over 7 4

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# Accountability of Centers of Excellence

The CoE for ICT uses its website as a real-time accountability, evaluative, transparent assessment tool. The quarterly and annual reports reflect evaluative and return on investment data.

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# Appendix I: Evaluative and Return on Investment Data

**EVENTS**

**1. STEM Summit Evaluation and ROI Data**

**Date of Event:** March 10 and 11, 2011  
**Location:** N201, and five break-out rooms  
**Host Institution:** Bellevue College  
**Number in attendance:** 89

**Sponsored by Centers of Excellence in:** Aerospace, Allied Health, Construction, and Information and Computing Technology

**Dr. Arthur Benjamin’s presentation on mathematics and statistics was informative and valuable.**

The average rating was 99%

**Rich James, F5 Networks, presentation on the information and computing technology industry was informative and valuable.**

The average rating was 92%

**Dave Gering, Manufacturing Industrial Council of Seattle (MIC), presentation on the aerospace and manufacturing industry was informative and valuable.**

The average rating was 86%

**Ed Phippin, Washington State Hospital Association, presentation on the allied health industry was informative and valuable.**

The average rating was 84%

**Dr. Delores Gibbons, Consultant, Mckinstry, presentation on the construction industry was informative and valuable.**

The average rating was 73%

**The industry panel discussion focusing on STEM and the four industry sectors (allied health, aerospace, construction and information and computing technology) was informative and valuable.**

The average rating was 83%

**Sue Shields, Puget Sound Skills Center, presentation focusing on education and construction was informative and valuable.**

The average rating was 85%

**Damon Schuneman and Mike Wierusz, Northshore School District, presentation focusing on education and information and computing technology was informative and valuable.**

The average rating was 91%

**Michael Werner, Granite Falls High School, presentation focusing on education and information and aerospace was informative and valuable.**

The average rating was 92%

**John Miller, Tacoma Community College, presentation focusing on education and allied health was informative and valuable.**

The average rating was 65%

**The educator panel discussion focusing on STEM and the four industry sectors (allied health, aerospace, construction and information and computing technology) was informative and valuable.**

The average rating was 84%

**The round table sessions in which you created modules/curricula/best practices centered on STEM and the four industry sectors (allied health, aerospace, construction and information and computing technology) was informative and valuable.**

The average rating was 85%

**Which industry sector round table sessions did you participate in?**

Aerospace and Advanced Manufacturing 20%

Allied Health 27%

Construction 6%

Information and Computing Technology 47%

**The registration and confirmation process was easy.**

The average rating was 95%

**The STEM Summit food and beverage options were satisfactory.**

The average rating was 88%

**I will attend the STEM Summit in 2012 if it becomes a reoccurring event.**

94% or (30) who actually responded to this particular question indicated “Yes”.

6% or (2) who actually responded to this particular question indicated “No”.

**Comments or feedback that will be helpful for next year’s STEM Summit.**

* For the portion I was able to attend, the summit was quite informative.
* Thanks for the opportunity to hear your industry presentations the first day.
* It was a great experience
* Great Summit, Thank you!
* Great Summit and good content.  More educators should attend this.
* (I’ll) bring other educators (next year).
* Learned tons; got lots of ideas!
* Wonderful event, very valuable information! Thank you

**Return on Investment**

Almost 90 faculty from the four industry sectors of aerospace, allied health, construction, and information and computing technology attended the first annual two-day STEM Summit hosted at Bellevue College on March 10 and 11, 2011.  The event was sponsored by the Centers of Excellence in aerospace, allied health, construction, and information and computing technology.  This free event involved a keynote presentation from Dr. Arthur Benjamin, internationally renowned mathematician from Harvey Mudd College, as well as educators and industry professionals through a series of presentations and panel discussions shared their strategies for incorporating STEM in the classroom and highlighted emerging technology and workforce trends.  Additionally, round table sessions were held to develop curriculum modules centered on incorporating STEM in the classroom.

The two-day event provided meals, as well as a drawing for a donated I-Pad (value $440), Center of Excellence report on emerging technology trends in information and computing technology (value $150), aligned to STEM career pathways, educator books (value $100), prizes for best curriculum development day one and day two (value $110).  Facility fees were waived as the event was held at Bellevue College.

In reviewing comparable registration fees for a two-day event, the fee average is between $250 and $575, as the economy is affecting registration fees the fee of $350, although on the low -end was selected.    Food, in many cases, is not provided.

**Return on Investment Breakdown:**

|  |  |
| --- | --- |
| **STEM Summit Expenses** |  |
| Labor | $700.00 |
| Table Skirt Rental | $253.00 |
| Prizes \* | $800.00 |
| Printed Materials and Supplies | $2,185.00 |
| Presenters and Panelists payments | $668.00 |
| Arthur Benjamin Speaking Fee | $3,474.00 |
| Filming services | $1,450.00 |
| Facilities \* | $3,200.00 |
| Donated Time Presenters and Panelists \* | $5,000.00 |
| Food services | $7,826.00 |
| Donated Labor \* | $2,500.00 |
| Total Expenses | $28,056.00 |

Total expenditures through the four CoEs totaled $16,556 or $4,139 per center.  In-Kind/Donations totaled $11,500 (denoted by \*) covered 41% of the total costs associated with this event.

If in-kind donations had not been received or given it would have adversely affected the quality of the event, while at the same time increase the total CoE funds needed to cover expenses.  If a $350 registration had been charged cover all CoE expenses it would have negatively impacted the budgets of the K-20 educational institutions that sent their educators.  If attendees actually had to pay a registration fee of $350 it would cost the state and taxpayers approximately $31,150.  Thus, total savings equal $14,594 (or, 47%).

The event was well attended well-received (see evaluative data above), and at least 94% of the respondents that answered the question of whether or not they would attend a 2012 STEM Summit indicated they would.

**2. Careers in IT: The Real Story**

**Date of Event:** April 20, 2010; 8:30am-1:00pm  
**Location:** Carlson Theater  
**Host Institution:** Bellevue College  
**Number in attendance:** 268

**Survey Results (aggregated averages)**

On a scale of 1 to 5 (1 being poor, 3 being average, and 5 being excellent)

|  |  |
| --- | --- |
| How would you evaluate today’s keynote speaker, Rich James, F5 Networks |  |
| Usefulness of the information presented | 4.60 or 92% |
| Applicability to you | 4.30 or 86% |
| Level of detail | 4.46 or 89% |
| Overall | 4.63 or 93% |
|  |  |
| How would you evaluate the industry panel discussion |  |
| Usefulness of the information presented | 4.70 or 94% |
| Applicability to you | 4.33 or 87% |
| Level of detail | 4.68 or 94% |
| Overall | 4.74 or 95% |
|  |  |
| As a result of attending the session today, how likely are you to considering entering an IT-related field? |  |
| Likelihood | 5 43% |
|  | 4 39% |
|  | 3 14% |
|  | 2 2% |
|  | 1 2% |
|  | 82% indicated a 4 or 5 |
|  |  |
| How would you rate the overall value of *Careers in IT: The Real Story* |  |
| Use the scale of 1 to 5 | 4.63 or 93% |

**Comments:**

* Would I be able to receive the PPT from the keynote speaker?  Uploaded on CoE website on 4.22.11
* Next year there will be mics on stands for questions at the bottom of the two main stairways.  The lights make it difficult to see who is asking a question. So, that will be a change for 2012.  Thanks for the feedback.
* Would be helpful to hear about entry-level jobs.
* There won’t be a projected image of the desktop on the screen during the panel next year.  Thanks for the suggestion.
* 5++ overall rating for the event (Thanks!)
* Great speakers.  Very informative. Great learning experience.
* Interesting experience from the panelists.
* Nice presentation.  Definitely interesting information.
* Surprisingly useful.  I didn’t expect to take away as much as I did today.  Thank you.
* The panel was very full of useful information and nicely detailed.
* Really good information.  Very useful.
* I loved the enthusiasm brought to the panel.  Love the real life stories the panelists announced to the audience.
* I’m a teacher. The conference was excellent! My students have clear information on how to prepare for this awesome field!  Thanks.
* Rich James:  Great examples of how it relates to us. Very informational.  Dima Protchenko: Helpful, as his presence helped show that technology will open up doorways to the world.  Shows connection to students, with life experience.
* Nice!
* Outstanding!  Concepts: Math, communication.  How can I find a mentor? (The student was contacted via email for additional information so the CoE can assist in helping this student).
* I really enjoyed the whole presentation :)
* Very good.
* Good.
* Rich James: Great! Panel: Thank you for highlighting the additional skills needed re: communication, people skills.
* Wonderful!  I will use the information I learned to advise students.
* I love this event.
* Valerie Goulds is an inspiration.  I’m glad the panel was comprised of such a rich group of people.
* Rich James: Great speaking to young adults.  Thanks you for all the information you provided to the students.  Very important for future leaders.

**Return on Investment:**

Students were provided with a 40-minute presentation and question/answer session with Mr. Rich James, Director of Staffing for F5 Networks, on working for an IT company, opportunities, career pathway hints on beginning a career in IT, and how a student can make the most of their academic experience.  He also discussed emerging trends in IT, as well as explaining the technical details. This was followed by a six-member IT industry panel (the aim in selecting panelists was their past educational experience as a CTC student, as well as juggling a career and education) who answered a variety of questions about their careers in IT, educational experiences, and current professional experience. Panel members included: Jenae Andershonis, Telligent; Valerie Goulds, Microsoft; Micah Gregorio, Best Buy; Lisa Edwards, Boeing; Dima Protchenko, Bellevue College; and, Dan Waters, Microsoft.  A question/answer session was facilitated by the moderator, Maureen Majury, Center of Excellence Director.  (Note: speakers were not reimbursed for their time or for travel; they donated their time).

Finally, there was a drawing for a number of prizes, including a Microsoft X-Box 360/Kinect package.  All prizes were funded through non-state dollars (in-kind monetary value of $607).  A hot, full breakfast and lunch was provided to the student attendees.  Additionally, transportation and substitute teacher costs were covered for three groups that between them brought over 150 high school and middle school students.  The remainder of the audience comprised of CTC students, faculty, career counselors, and high school teachers.  Facility fees were waived as the event was held at Bellevue College.

In reviewing the average registration fees for a comparable event, the fee for a one-day event is between $100 and $250 (average $175).  For a half-day, $90.  Food, in many cases, is not provided.

| **Expense** | **Cost** |
| --- | --- |
| Facility | $1,620 \* |
| Food | $3,475 |
| Printed Material | $660 |
| Prizes and giveaways | $607\* |
| Travel for bus/subs. | $1,500 |
| Travel/Time (speakers) | $1,000\* |
| Video Production | $1,500 ($750\*) |
| Labor | $4,200 ($3,000\*) |
| Total | $14,562 ($6,977\*) |

Total expenditures through the CoE totaled $7,585.  In-Kind/Donations totaled $6,977 (denoted by \*) and covered 48% (an increase of almost 10% over 2010) of the total costs associated with this event.

If in-kind donations had not been solicited it would have adversely affected the quality of the event, while at the same time increase the total CoE funds needed to cover expenses.  If approximately $50 dollars had been charged to cover actual CoE expenses it would have negatively impacted the budgets of school districts that sent their students (bus, substitute teachers, as well as the actual registration fee), and it would have adversely impacted access for students and school districts who couldn’t afford approximately $1,500 to send 168 students (registration, substitute teacher, transportation).    If students paid a minimum of $90 to attend a half-day event featuring IT industry speakers and panelists discussing careers in IT, it would cost the state and taxpayers approximately $24,120 (based upon the 2011 attendance number of 268).  Careers in IT: The Real Story, at a cost of $28 per participant (this does not include the associated financial value of the in-kind donations), saved **$16,535**.  The event was well attended (almost at capacity in the venue), well-received (see evaluative data above), and at least 82% of the attendees indicated there is an 80 to 100% possibility they will consider pursuing a career in IT.

**3. IT Futures Summit at Microsoft**

**2011 IT Education Summit: *“Inspiring Faculty for Tomorrow’s IT Workforce”***

*Next Generation Technology Skills: What Industry Wants*

**Friday, May 20, 2011**

**Attendance: 134**

Please rate your satisfaction by filling in the number that corresponds accurately with your response:

1 = Poor, 2 = Fair, 3 = Average, 4 = Good, 5 = Excellent

|  |  |
| --- | --- |
| **Overall quality of the this event** | 91% |
| **Educational value** | 90% |
| **Logistics (registration, food, confirmation, accommodations, etc.)** | 97% |
| **Information Technology Developments, Larry Nelson, Director, Microsoft** | 87% |
| **Arithmetic of Change, Donald Brinkman, Program Manager, Microsoft** | 95% |
| **Mobile Applications, Analisa Roberts, Senior Manager, Microsoft** | 83% |
| **Refresh IT Program, Jeff Johnson, Area Lead, Microsoft** | 91% |
| **Windows Mobile Apps, Ben Lower, Product Manager, Microsoft** | 81% |
| **Office 2010, John DuBois, Solution Specialist, Microsoft** | 92% |
| **Web Matrix, Dan Waters, Solution Specialist, Microsoft** | 86% |
| **Cloud & the Revolution of Big Data, Dennis Gannon, Director, Microsoft** | 93% |
| **SharePoint 2010, Moritz Berger, Architect, Microsoft** | 86% |

**Comments:**

* Nice day!
* Nicely done; another great job.
* Very helpful day – Thank you Maureen!
* Lunch was super this year!
* Thank you for providing this opportunity.
* Excellent job! My first year and I plan to return in the future.  Very well organized – excellent speakers.
* I really liked the overview of new and emerging technologies.  I always learn something new at the Summit.   Presenters (were) all great.  Really appreciated the Cloud revolution presentation by Dennis Gannon.  Thanks for hosting and for the great food!
* Thank you. Excellent information; dynamic presenters providing current and future relevant IT developments.
* Demo the Windows 7 Phone!!! This was a great though, thanks!
* Great content.
* Terrific event!
* Thank you for the excellent opportunity to hear about IT updates and the future developments.  Great information and MS Campus site.
* Thanks for another great event!

**Return on Investment:**

134 K-20 IT teachers and CTC faculty attended the one-day, free IT Futures Summit at Microsoft. Faculty began their day with a 60-minute keynote presentation by Mr. Larry Nelson, World Wide Managing Director EDU Partners, Microsoft, who addressed *Workforce Readiness for and through the Cloud*. Mr. Nelson also took time for questions. Then participants were able to attend four of eight sessions, in one-hour blocks. Networking opportunities were available to attendees during the one-hour luncheon.

Finally, there was a drawing for a number of prizes, including one Microsoft IT Academy Program memberships (a $1,375 value), BC Foundation-sponsored prizes totaling $223. Total in-kind monetary value of giveaways was $2,598**.** In-kind was the facility rental fee ($4,100) which was waived as Microsoft sponsored the event. Breakfast, snacks, and lunch were provided for all participants.

In reviewing the average registration fees for a comparable event, the fee for a one-day event is between $200 and $400 (average of five different conferences is $300.) Food is in some cases not provided.

**Return on Investment Breakdown:**

**Actual Expenses**

|  |
| --- |
| Facility $4,896 ($4,100\*) |
| Food $5,723 |
| Printed Material $650 |
| Microsoft Time $2,500\* |
| Prizes and giveaways $2,598\* |
| Travel/Time (speakers) $2,250\* |
| Video Filming $3,500 ($1,250\*) |
| Labor $5,800 ($5,280\*) |
| **Total $27,917 ($17,978)** |

Total expenditures through the CoE totaled $9,939 (overall expenses were down a little over 10% from 2010). In-Kind/Donations totaled $17,978 (denoted by \*) covered 64% (up by 42% over 2010) of the total costs associated with this event and were up by 115%

If in-kind donations had not been solicited it would have adversely affected the quality of the event, while at the same time increase the total CoE funds needed to cover expenses. If approximately $74 dollars per attendee had been charged to cover actual CoE expenses it would have negatively impacted CTC professional development dollars available to faculty and it would have adversely impacted access for faculty whose respective colleges couldn’t afford approximately $200 to $400 to send between three and four faculty to the Summit. If faculty paid a minimum of $300 to attend an alternate, one-day for-profit event featuring IT industry speakers, panelists, subject matter experts discussing and demonstrating new IT products, emerging technologies, how to use them in their classroom, and advice on how to update IT programs to meet changing industry needs, it would cost the state and taxpayers approximately $30,284 (based upon the 2011 attendance number of 134).

The IT Futures Summit at a cost $74 per participant (this does not include the associated financial value of the in-kind donations), saved $30,284.

**4. Working Connections IT Faculty Development Institute (August 2009)**

**12th Annual Washington State**

**Working Connections IT Faculty Development Institute**

**August 24-26, 2010**

**Evaluative Data and Return on Investment**

**Number of participants: 81**

I.

The CoE for ICT hosted the twelfth annual Washington State Working Connections IT Faculty Development Institute from August 24th to August 26th, 2010.

The following tracks were offered to faculty participants:

* Adobe Creative Suite 5 (Instructor: Ron Austin, Adjunct faculty at Bellevue College and other local community and technical colleges)
* Office 2010 (Instructor: Letty Barnes, Lake Washington Technical College)
* Office 2010 (Instructor: Suzanne Marks, Bellevue College)
* SharePoint 2010 (Instructor: Paul Stubbs, Microsoft)
* Visual Studio 2010 (Instructor: Dan Waters, Microsoft)

The 2010 Institute offered five tracks to participants, up one from 2009. The Institute’s 81 participants (up 44 from 2009) came from 23 of the 34 Washington state community and technical colleges (up 10 from 2009), as well as the Puget Sound Skills Center, St. Joseph’s College, and Port Townsend High School.

The Center’s fundraising activities generated $27,150 in in-kind donations (software, textbooks, product giveaways, etc.).  The following sponsors contributed to the success of the Institute:

* Bellevue College Foundation
* Center of Excellence for Information and Computing Technology
* Microsoft
* Murach Publishing
* Paradigm Publishing
* Pearson Publishing
* Bellevue College and its program and service departments, as well as Center of Excellence provided institutional support.

II.

The Institute’s faculty advisory board and CoE for ICT measure the success of the Institute in a number of ways.  The primary measure of success is did the professional development training tracks meet the needs of the participants?  Other measures of success include the overall Institute’s operational activities (registration, food, hotel, classroom set-up, etc.); will faculty participants attend a future Institute; and, is the Institute a good use of their time.

**Working Connections: General**

**The registration form was easy to complete and submit.**

4.60                        92%

**The cost is reasonable and the value is good.**

4.71                        94%

**Comments:**

* $100 – what a bargain!
* I would attend again for this price.
* It was because the reduction in cost that I attended this time. Thank you, thank you, thank you!
* VERY affordable.
* Amazing!!
* Thank you, thank you, for the reduced $100 price.  I wouldn’t have been able to attend unless the price was reduced to this!
* I think that the three-day session providing learning materials and meals was a huge benefit compared to the value of $100 required to register.
* $100 was an awesome price!
* Excellent value! Thank you!
* Keep it low economy improves.

**The logistics (in-person check-in and registration, customer service) met my expectations.**

4.84                        97%

**Comments**

* You guys have this down!  Good job!

**The facilities and labs met my expectations.**

4.60                        91%

**The quality and choices of food at the Institute was:**

* Poor                      1%
* Fair                         1%
* Good                     33%
* Excellent              65%

**Overall rating of Working Connections. The program met my expectations.**

4.86                        97%

**General Comments**

* Working Connections is a very good training opportunity.
* I’ll attend next year!
* Good Job!!
* I’ll be back next year. Thanks.
* WOW.
* Excellent workshop.
* Thank you to everyone involved who helped make this week an enjoyable experience!

**Future Working Connections**

**Working Connections’ faculty advisory board decreased registration from $450 to $100; a decrease of 78% due to economic cuts for professional development and training at the CTC level. Were your professional development dollars cut?**

**Did this make it easier for you to attend the Institute?**

Yes                         86%

No                          14%

**Comments**

* Our dollars have been limited and the $450 (would have) wiped out funds for two years.
* Fortunately we would have come either way, but I think it made a difference overall for others.
* Lack of funding limited our previous colleague attendance of 6+ attendees to only 2 this year.
* My institution supports faculty development.
* Paying $1485 or $300 for faculty to attend a relevant conference is a no-brainer. The question really is one of academic value and industry relevance all of which is important and met by the advisory board.
* Easier…though we’d already requested funding for it.
* Had the registration fee not been decreased, many of us would not have been able to attend.
* It made it doable.  I would not have attended without this decrease in price.
* The cost was the factor in me not attending before this one.
* Price made it easier to attend.
* Much easier.
* This made it so that more than one could attend.
* The reduction in fee helped to attend.
* The $100 cost is the right cost for my budget.
* I definitely came because of the cost reduction.
* Made it much easier to attend.

**Working Connections: General**

81 participants (CTC faculty and high school teachers) plus computing service personnel (on-hand for computing issues, as well as the training experience), attended the three-day, $100 Working Connections IT Faculty Development Institute.  Participants began their professional development training with registration, lunch and the welcome and opening ceremonies.  They then went to the specific training track they registered for and began their Working Connections experience.  Over the three days, Institute participants completed 23 hours of instruction (only two hours less than the 2009 four-day event).  The participants were given a lunchtime on Wednesday, August 25, 2010, without a presentation so they could network and relax with such a compressed professional development schedule.  Closing ceremonies were held during the lunch hour on Thursday, August 26, 2010 and participants ended the institute at 5:30 p.m. in the evening.   Total in-kind monetary value of giveaways was $8,200**.** Facilities fees were not charged for the five labs, the auditorium (N201), catering room (N207), and the break room (A265) because the event is hosted by Bellevue College.  Breakfast, snacks, and lunch were provided for all participants.

In reviewing the average registration fees for a comparable event, the fee for a three-day long training event (professional development) averages $1,000 (average of four different non- and for-profit training events).  The tracks all focused on the most releases of Microsoft and Adobe which enabled instructors to not only learn new technology and best practices, but the books were all aligned to the 2010 versions of the software and programming languages and applications. Food is in some cases not provided and the training is for three days, not four.  Total revenue generated from the $100 tuition was $7,200. (Technical support was provided for each computer lab in return for participating in the track).

**Return on Investment Breakdown:**

**Actual Expenses**

Facilities: $7,620\*

Food & Beverages: $8,035

Printed Material/Supplies: $2,500

Prizes & Giveaways (textbooks and miscellaneous giveaways from publishers): $8,200\*

Textbooks: $9,500 ($8,500)\*

Travel/Time (speakers): $100\*

Instruction: $13,260 ($2,730\*)

Labor: $2,500

**Total: $51,715 ($27,150\*)**

Total expenditures through the CoE funding totaled $51,715.  In-Kind/Donations totaled $27,150 (denoted by \*) and registration fees generated $7,200 combined covered 66% of the total costs associated with this event.

Total expenditures through the CoE funding totaled $17,365 down approximately $10,000 from 2009.  This was due to an increase in in-kind donations (time and physical items, including Dan Waters of Microsoft not charging the $2,730 –salary plus benefits) and with an increase in participation revenue from tuition was up 58% from 2009.  In-Kind/Donations totaled $27,150(denoted by \*) covered 52% of the total costs associated with this event.  If in-kind donations had not been solicited it would have adversely affected the quality of the event, while at the same time increased the total CoE funds needed to cover expenses.  Thus, in-kind contributions allowed the Center to offer the Institute without incurring additional cost to the Center or passing the cost on to participants.  If faculty paid a minimum of $1,000 to attend a similar for-profit, private company’s professional development three-day ICT training it would cost the state and taxpayers approximately $72,000 (71 X $1,000 = $72,000) minus actual CoE expenditures **$54,635**.

**RESEARCH**

**1.**  ***Emerging Workforce Trends in Information and Computing Technology 2011 to 2018…: STEM Career Pathways for the Washington State Community and Technical College System***

**Expenditures**

Graphics and editing $9,000

Research and writing\* $65,200

**Total** $74,200

Given the nature of time involved with researching and writing the report, the majority was done outside of regularly scheduled work hours.  Total hours since August 2010 totaled 652 over a 5.5 month period X $100 per hour for an outside researcher and/or writer. The in-kind/donation totaled $65,200 (denoted by \*) covered 88% of the total costs associated with this project.

**SERVICES**

**I. ICT Degree/Certificate Reviews**

**Return on Investment**

The ICT seven college program (degree/certificate) review’s costs are as follows:

$1,125        15 of the 29 ICT industry professionals accepted the $75 stipend for their two- to three-hours of service.

$2,800        Personnel costs for facilitating seven sessions.

$500           Food and beverages provided for ICT reviewers

$600           Facilities (in-kind as hosted at Bellevue College)

$25             Printing & Materials

**$5,050        Total**

If each college had done an independent ICT review for a program degree or certificate, it would have entailed the minimum following hours per task (does not include the mentoring, advice to continue through June 2011):

* 2 hours to meet with and understand client needs
* 24 hours to develop a process, including reviewing the current program
* 8 hours to recruit, outline expectations, and confirm for the review a minimum of four ICT professionals
* 5 hours to prepare, facilitate review, and ensure payment to ICT industry professionals
* 8 hours to transcribe ICT review team recommendations, verify validity of recommendations, research workforce demand, and prepare report
* 3 hours to follow up, vet the report, create an evaluative process, and communicate/follow-up with the college and ICT industry professionals

**50 hours at $150\* per hour = $7,500**

\* Due to economic changes, the Center believes the $150 per hour rate is a 2011 reality.

X 7 colleges = $52,500

# 96% cost savings for the taxpayer, or $47,450.  This does not include the changes the colleges might make if they implement the recommendations and increase a) enrollments; b) student satisfaction; c) increased employment and/or articulation.  This will be assessed in 2011.