



1

Findings from the BCIT Survey on Student Engagement (part II)

Qin Liu
Research Analyst
BCIT Institutional Planning & Analysis Office

Lunch & Learn Session
12:30 – 1:30 p.m.
March 24, 2010

2009 BCIT Survey on Student Engagement

2

- **Student Population:**
full-time students enrolled in Term 200910 (Jan. to May 2009)
- **Survey Administration:**
web survey, administered April 17-June 7, 2009
- **Data quality indicators:**
 - Response rate: 18.1% (1221/6756)
 - Margin of error: $\pm 2.57\%$ at the 95% confidence level.

Details in March 10 presentation slides

This session

3

- Question 1: How are BCIT students doing as compared with UBC students?
- Question 2: Who are successful students at BCIT?
- Question 3: What factors have contributed to their success?

Why compare BCIT and UBC?

4

Please rank your preferred choice of colleges / universities for your post-secondary education / training. 1= First Choice 2= Second Choice 3= Third Choice

| Institution | Within top three choices | First choice |
|---------------------------------|--------------------------|--------------|
| BCIT | 95.8% | 71.2% |
| UBC-Vancouver | 48.1% | 15.4% |
| SFU | 31.5% | 6.5% |
| Douglas College | 18.6% | 2.0% |
| Kwantlen Polytechnic University | 17.9% | 1.0% |
| Vancouver Community College | 17.9% | 2.5% |
| Langara College | 15.9% | 1.2% |
| Capilano University | 10.4% | 1.2% |

n=403

Source: 2009 BCIT Prospective Student Survey, Table 2.17

Q1: How are BCIT students doing when compared with UBC students?

Data for comparison

5

- **UBC: 2008 NSSE data**
 - administered in February to March, 2008
 - First-year (FY) and senior (SR) undergraduate students enrolled at UBC in the academic year of 2008/09
 - FY: 1,689 & SR: 1,651

- **BCIT: 2009 BCIT Survey on Student Engagement (BCITSSE)**
 - administered in April to June, 2009
 - Full-time students enrolled in BCIT Technology programs in Term 200910 (January to May, 2009)
 - The total respondents: 970

Q1: How are BCIT students doing when compared with UBC students?

Variables for Comparison

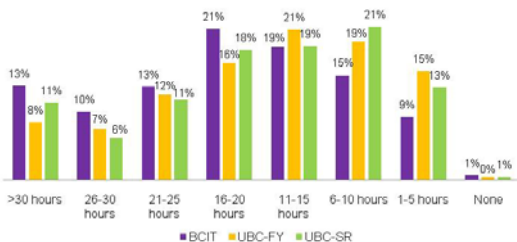
6

| Category | Question |
|--------------------------------|--|
| Student Engagement (17) | BCITSSE Since the start of your program or most current term, how often have you done each of the following activities? Scale: Never (1), Sometimes, Often, Very often (5) |
| | NSSE In your experience at your institution during the current school year, about how often have you done each of the following? Scale: Never (1), Sometimes, Often, Very often (4) |
| | BCITSSE In your current term, about how many hours do you spend in a typical 7-day week doing each of the following activities? Scale: "None" (1) to "Over 30 hours" (8) |
| | NSSE About how many hours do you spend in a typical 7-day week doing each of the following? Scale: "0" (1) to "more than 30" (8) |
| Academic Challenge (5) | BCITSSE Since the start of your program or most current term, how often have you done the following course-related activities? Scale: Scale: Never (1), Sometimes, Often, Very often (5) |
| | NSSE To what extent does your institution emphasize each of the following? Scale: Very little (1), Some, Quite a bit, Very much (4) |
| Student Gains (11) | BCITSSE How much has your experience at BCIT contributed to your knowledge, skills and personal development in the following areas? Scale: Very little (1), Some, Quite a bit, Very much (4) |
| | NSSE To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas? Scale: Very little (1), Some, Quite a bit, Very much (4) |

Q1: How are BCIT students doing when compared with UBC students?

Student Engagement

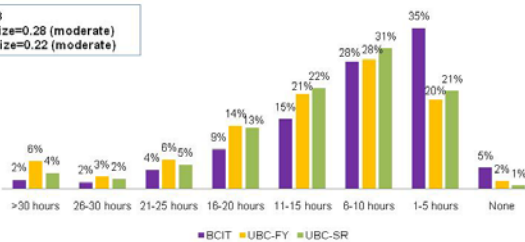
Preparing for class OUTSIDE class
(note: UBC question is "Preparing for class")



Statistics for comparison:
 1. Statistical significance:
 t-score
 2. Practical significance:
 effect size (Cohen's d)

Mean (BCIT)=4.94; Mean (UBC-FY)=4.43; Mean (UBC-SR)=4.53
 Mean Difference(BCIT vs. UBC-FY)=0.51, sig. p<.001; Effect Size=0.28 (moderate)
 Mean Difference(BCIT vs. UBC-SR)=0.42, sig. p<.001; Effect Size=0.22 (moderate)

Relaxing and socializing



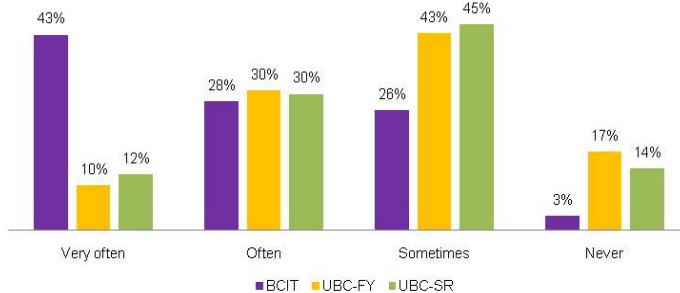
Mean (BCIT)=3.17; Mean (UBC-FY)=3.87; Mean (UBC-SR)=3.69
 Mean Difference(BCIT vs. UBC-FY)=-0.70, sig. p<.001; Effect Size=-0.44 (moderate)
 Mean Difference(BCIT vs. UBC-SR)=-0.52, sig. p<.001; Effect Size=-0.35 (moderate)

Q1: Comparing BCIT and UBC students

Student Engagement (cont'd)

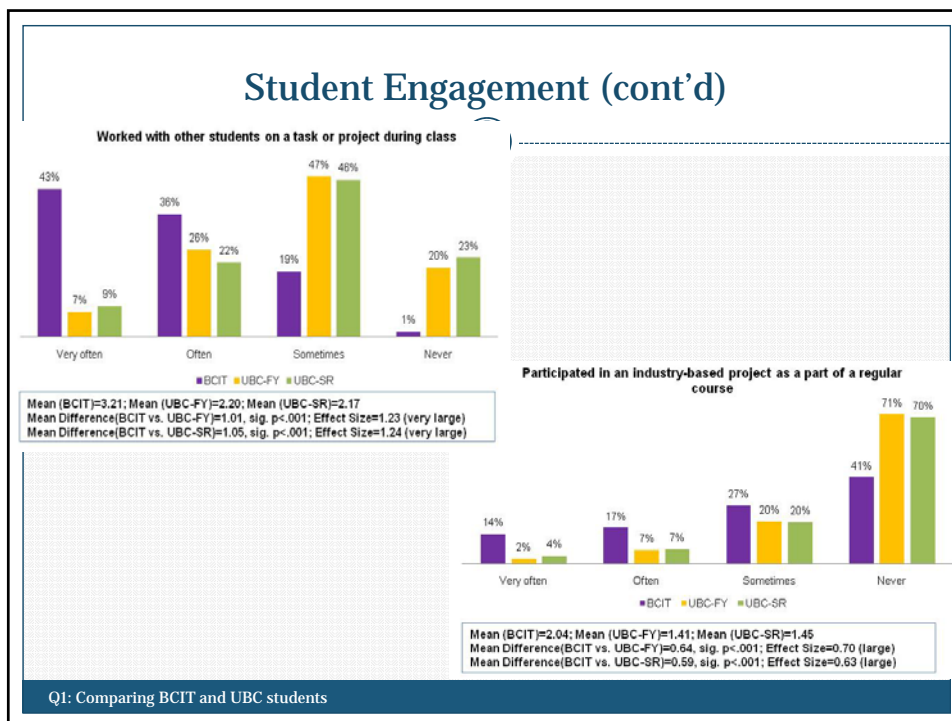
8

Worked harder than I thought I could



Mean (BCIT)=3.10; Mean (UBC-FY)=2.33; Mean (UBC-SR)=2.40
 Mean Difference(BCIT vs. UBC-FY)=0.77, sig. p<.001; Effect Size=0.87 (large)
 Mean Difference(BCIT vs. UBC-SR)=0.70, sig. p<.001; Effect Size=0.79 (large)

Q1: Comparing BCIT and UBC students



Student Gains

How much has your experience at BCIT contributed to your knowledge, skills and personal development in the following areas?

10

Gains in Practical Competence

- Acquiring job-related knowledge and skills
- Thinking critically and analytically
- Solving practical problems effectively and efficiently

Gains in Personal Development

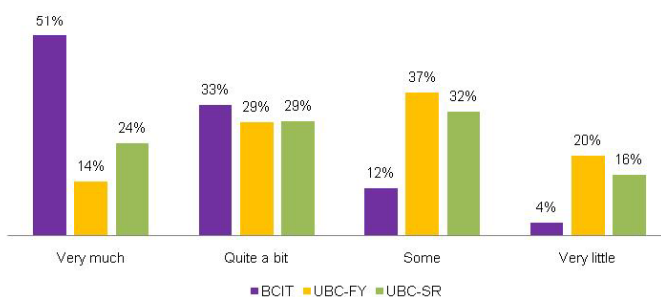
- Speaking clearly and effectively
- Acquiring a broad general education
- Developing a better understanding of myself
- Developing a personal code of values and ethics
- Developing a deeper understanding of people from other cultural or ethnic backgrounds
- Working effectively with people from a different cultural or ethnic background from my own
- Learning on my own, pursuing ideas, and finding information I need

Q1: Comparing BCIT and UBC students

Student Gains (cont'd)

11

Acquiring job-related knowledge and skills



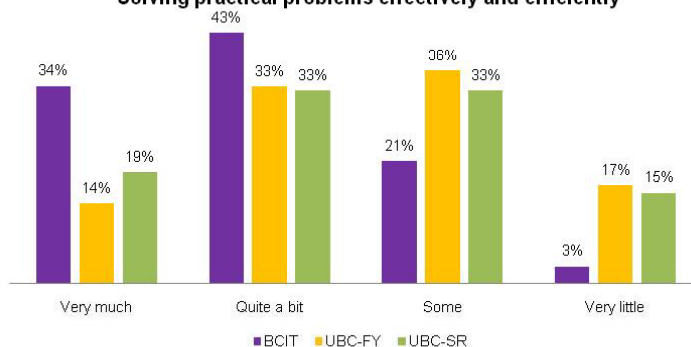
Mean (BCIT)=3.32; Mean (UBC-FY)=2.36; Mean (UBC-SR)=2.61
 Mean Difference(BCIT vs. UBC-FY)=0.96, sig. p<.001; Effect Size=1.07 (very large)
 Mean Difference(BCIT vs. UBC-SR)=0.71, sig. p<.001; Effect Size=0.78 (large)

Q1: Comparing BCIT and UBC students

Student Gains (cont'd)

12

Solving practical problems effectively and efficiently



Mean (BCIT)=3.07; Mean (UBC-FY)=2.44; Mean (UBC-SR)=2.55
 Mean Difference(BCIT vs. UBC-FY)=0.63 sig. p<.001; Effect Size=0.73 (large)
 Mean Difference(BCIT vs. UBC-SR)=0.526, sig. p<.001; Effect Size=0.58 (large)

Q1: Comparing BCIT and UBC students

Question 2: Who are our successful students?

13

- **Data:**
 - Technology program respondents: 970 students
 - Trades/Apprenticeship program respondents: 250 students

Response Rates by Program Grouping

| Program | Respondents | Student Cohort | Response Rate |
|-------------------------------|-------------|----------------|---------------|
| Technology program | 970 | 4155 | 23.3% |
| Trades/Apprenticeship program | 250 | 2609 | 9.6% |
| Total | 1220 | 6764 | 18.0% |

Definition of “Successful Students”

14

- **What is your definition?**
- **Kuh et al. (2007):**
 - Academic achievement;
 - Engagement in educationally purposeful activities;
 - Satisfaction;
 - Acquisition of desired knowledge, skills and competencies
 - Persistence
 - Attainment of educational objectives

Q2: Who are our successful students?

MEASUREMENT: Student Success Indicators

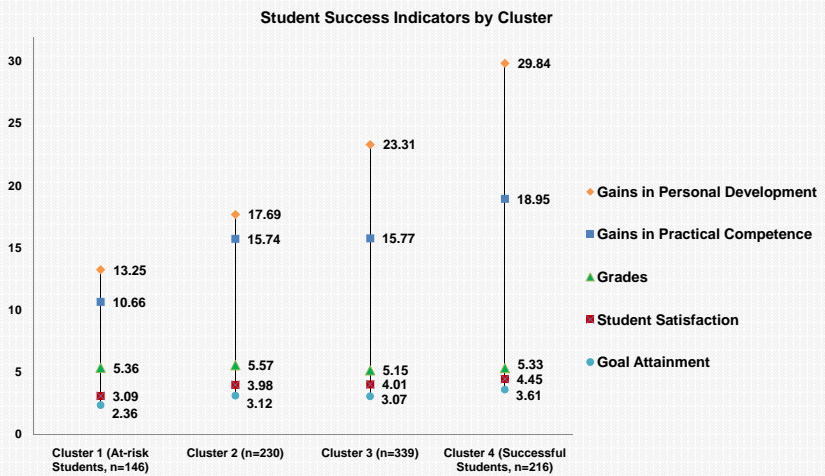
15

| Indicators | Questions | Measurement/Scale |
|-------------------------------|---|--|
| Student satisfaction | Q13: Overall, how satisfied are you with your learning experience at BCIT? | 1=Very dissatisfied; 5=Very satisfied |
| Goal Attainment | Q14: To what extent are your educational goals being met while studying at BCIT? | 1=Very little; 4=Very much |
| Gains in Practical Competence | Q15: How much has your experience at BCIT contributed to your knowledge, skills and personal development in the following areas? Acquiring knowledge for further education in my field or profession Acquiring job-related knowledge and skills Thinking critically and analytically Solving practical problems effectively and efficiently Developing clearer career goals | Sum of the five question items 1=Very little; 4=Very much |
| Gains in Personal Development | Q15: How much has your experience at BCIT contributed to your knowledge, skills and personal development in the following areas? Learning to adapt to change Speaking clearly and effectively Learning on my own, pursuing ideas, and finding information I need Writing clearly and effectively Developing a better understanding of myself Working effectively with people from a different cultural or ethnic background from my own Developing a personal code of values and ethics Developing a deeper understanding of people from other cultural or ethnic backgrounds | Sum of the eight question items 1=Very little; 4=Very much |
| Academic Achievement | Up to now, what is your average percentage grade for your current program? | 1=below60; 9=95 or higher |

Q2: Who are our successful students?

Successful vs. At-risk Students (Technology)

16

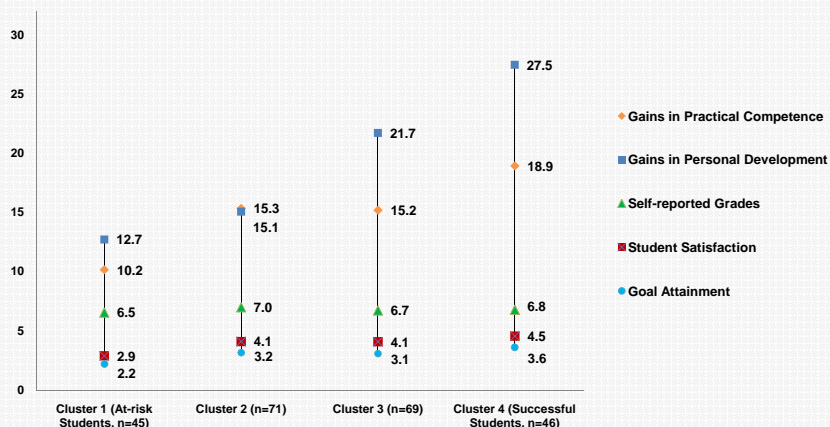


Q2: Who are our successful students?

Successful vs. At-risk Students (Trades/Apprentice)

17

Student Success Indicators by Cluster



Q2: Who are our successful students?

Our definition of “Successful students”

18

- Compared with “at-risk students”, “Successful students” are ...
 - They are more satisfied with their learning experience at BCIT;
 - Their educational goals are being better met while studying at BCIT;
 - Their experience at BCIT has contributed more to their *practical competence*;
 - Their experience at BCIT has contributed more to their *personal development*

Q2: Who are our successful students?

Comparing “successful” vs. “at-risk” students

19

- Demographic characteristics
- Engagement with student life
- Engagement in certain mental activities
- Perceived academic challenge
- Obstacles to their engagement
- Use of student services
- Satisfaction with student services
- Problem-solving behaviour
- Perceived institutional support

Q2: Who are our successful students?

RESULTS: Effects of Demographic Indicators

20

- Significant effect: gender, school, program, credential type

Successful and At-risk Students by Gender

| Gender | At-risk Students (n=146) | Successful Students (n=216) | Total (n=362) |
|--------|--------------------------|-----------------------------|---------------|
| Female | 43.8% | 64.4% | 56.1% |
| Male | 56.2% | 35.6% | 43.9% |

Successful and At-risk Students by School

| School | At-risk Students (n=146) | Successful Students (n=216) | Total (n=362) |
|---|--------------------------|-----------------------------|---------------|
| Business | 32.9% | 44.4% | 39.8% |
| Health Sciences | 18.5% | 31.5% | 26.2% |
| Computing and Academic Studies | 14.4% | 8.8% | 11.0% |
| Construction and the Environment | 17.1% | 8.3% | 11.9% |
| Manufacturing, Electronics & Industrial Processes | 17.1% | 6.9% | 11.0% |

- Insignificant effect: age, campus, city, and previous educational level

Q2: Who are our successful students? Technology program respondents data

RESULTS: Successful students are ...

21

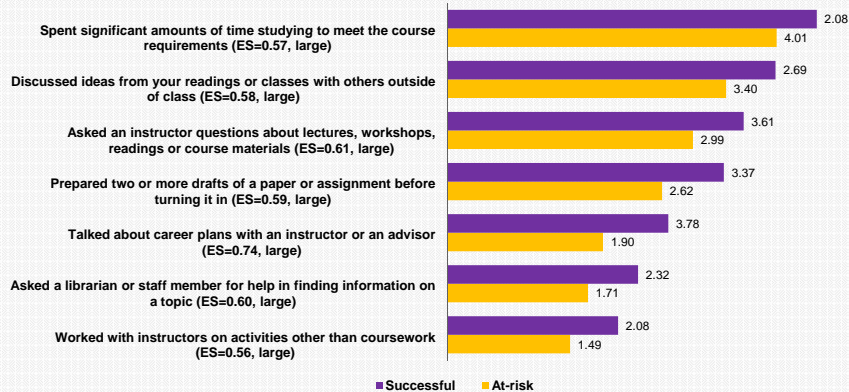
- Work harder
- Are more involved in campus communities
- Have more interactions with instructors and fellow students
- Participate more in active and collaborative learning, and community-based learning
- Used the library more often
- Do higher-order mental activities more often: analyzing, integrating, applying
- Use student services more often; more satisfied with student services
- Have a bigger support network: communicating with instructors and others
- Perceive more support from BCIT

Q2: Who are our successful students?

An example: Student Engagement

22

Since the start of your program or most current term, how often have you done the following course-related activities?

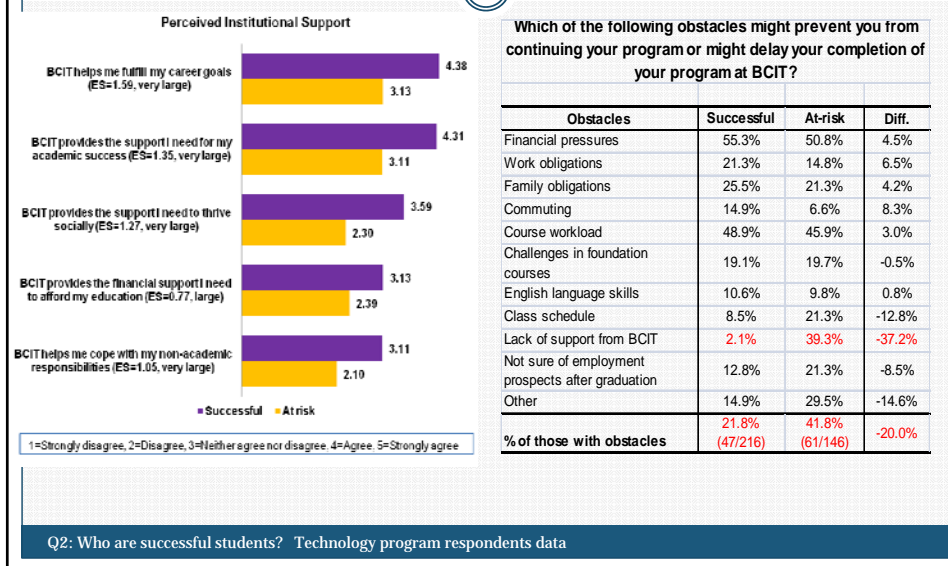


The scale: 1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Very often

Q2: Who are our successful students? Technology program respondents data

Another example: Student Support

23



Question 3: What contributes to student success? (Technology)

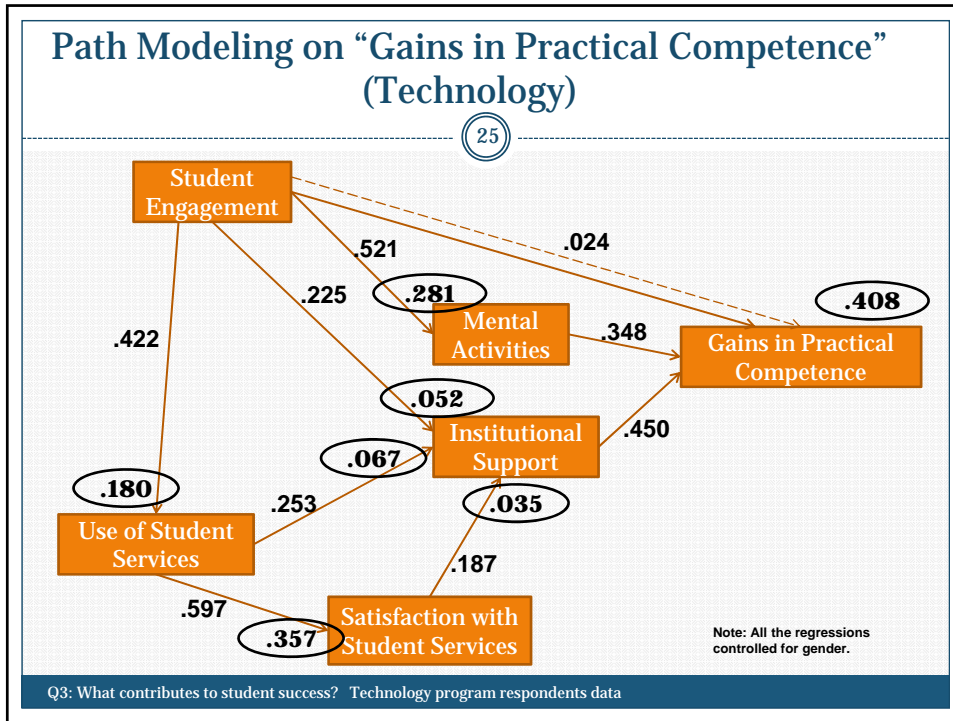
24

Linear Regression on Student Success Indicators

| Dependent Variable | Independent Variables: Standardized Coefficient (Beta) | | | | Adjusted R Square |
|-------------------------------|--|-------------------|-------------------|-------------------|-------------------|
| | Student Engagement | Mental Activities | Perceived Support | Gender (F=1; M=0) | |
| Gains in Personal Development | .093* | .206** | .437** | .046 | .319** |
| Gains in Practical Competence | .024 | .348** | .450** | .065 | .408** |
| Self-reported Grades | -.098 | .162** | .049 | .135 | .039** |
| Student Satisfaction | .026 | .122** | .566** | -.020 | .368** |
| Goal Attainment | -.001 | .216** | .472** | .109** | .329** |

Notes: 1. ** p<.01; * p<.05; 2. When Beta >.3, the variable has practical significance.

Q3: What contributes to student success? Technology program respondents data



What contributes to student success? (Trades/Apprentice)

(26)

Linear Regression on Student Success Indicators

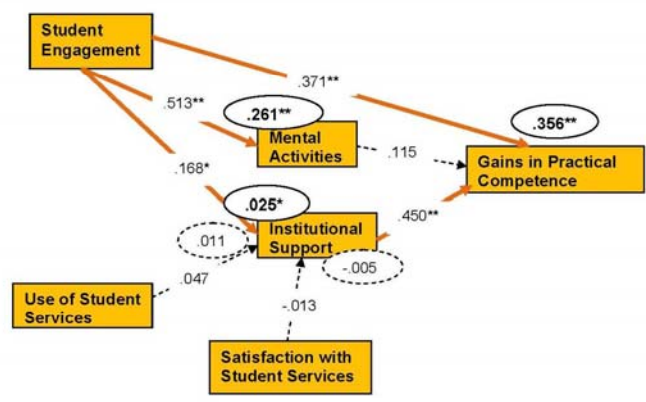
| Dependent Variable | Independent Variables: Standardized Coefficient (Beta) | | | | Adjusted R Square |
|-------------------------------|---|-------------------|-------------------|-------------------|-------------------|
| | Student Engagement | Mental Activities | Perceived Support | Gender (F=1; M=0) | |
| Gains in Personal Development | .371** | .149* | .350** | -.104 | .419** |
| Gains in Practical Competence | .216** | .115 | .450** | -.112* | .356** |
| Self-reported Grades | -.060 | .086 | .003 | -.015 | -.012 |
| Student Satisfaction | .109 | -.008 | .600** | -.084 | .395** |
| Goal Attainment | .147* | .026 | .517** | -.094 | .333** |

Notes: 1. ** p<.01; *<.05; 2. When Beta > 0.3, the variable has practical significance.

Q3: What contributes to student success? Trades/Apprenticeship respondents data

Path Modeling on “Gains in Practical Competence” (Trades/Apprentice)

27



Notes:
 1. ** p<.01; *<.05; 2. When Beta >.3, the variable has practical significance.
 3. All regressions controlled for gender.

Q3: What contributes to student success? Trades/Apprenticeship respondents data

Where to find the reports

28

- BCIT internal repository (Lotus Notes):
 Institutional Review Communications/Institutional Research Publications/2009 BCIT Full-time Student Survey report



Thank you!

29

Please feel free to contact us if you have any questions or feedback.

Qin Liu, Research Analyst, IPAO

Tel: 604-456-1159

Email: qin_liu@bcit.ca