Five-Year Evaluation of the Effects of the Long Beach YMCA Youth Institute Intensive Summer Program on Leadership, Technology Skills and School Attitudes

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Methods

Data Collection

Self-report survey data was collected from all entering 2003 - 2007 YMCA Youth Institute Intensive Summer Program participants on their first and last day of the program. Three surveys were completed. The first was the Leadership Skills Inventory (Karnes & Chauvin, 2000), a standardized leadership measure. The inventory measures nine areas of leadership skill. The instrument has been shown to have strong reliability and validity. The second instrument, The Long Beach YMCA Technology Skills Inventory, was created by Dr. Jo Ann Regan formerly of the California State University, Long Beach, Department of Social Work, specifically to evaluate this project. The Technology Inventory consists of two sections, one on frequency of technology use and one on technology competency. The third survey, introduced in 2005, is the School Attitude Assessment Survey – Revised Edition (McCoach & Siegle, 2003). This survey measures five areas of school attitudes. This instrument has been shown to have strong reliability and validity.

Sample

While 194 students originally started the Youth Institute Intensive Summer Program between 2003 through 2007, 170 (88%) completed both pre-summer and post-summer tests and were included in the analyses. As shown in Table 1, the participants of the Youth Institute Intensive Summer Program ranged from 12 to 17 years of age. The majority of youth were between 13 and 15 years of age (84%). Just over half (53%) of the participants were male. Latinos (41%) were the largest ethnic group, followed by Asian-American/Pacific Islanders (24%), African-Americans (19%), and Caucasians and Bi-racial/Mixed ethnicities (8% each). Three-quarters (75%) of the participants were 8^{th} or 9^{th} graders when they began the Youth Institute program.

Table 1
Description of 2003 – 2007 Summer Youth Institute Participants
(N = 170)

	%	N
♦ Program Year		
2003	20%	34
2004	19%	33
2005	22%	37
2006	21%	36
2007	18%	30
♦ Age at Start of Program		
12	1%	1
13	30%	51
14	35%	60
15	19%	32
16	12%	21
17	3%	5
♦ Gender		
Male	53%	90
Female	47%	80
♦ Ethnicity		
Latino	41%	70
Asian American/Pacific Islander	24%	41
African-American	19%	32
Caucasian	8%	14
Bi/Multicultural	8%	13
♦ Grade		
8^{th}	46%	79
9^{th}	29%	49
10^{th}	18%	30
11^{th}	7%	12

Analysis

Leadership Skills

Nine types of leadership skills were measured including fundamentals of leadership (α = .83 to .88), written communication (α = .83 to .88), speech communication (α = .86 to .89), character-building (α = .82 to .87), decision-making (α = .82 to .83), group dynamics (α = .88 to

.90), problem-solving (α = .61 to .81), personal skills (α = .88 to .89), and planning skills (α = .87 to .91). Participants rated themselves on engaging in each behavior on a scale ranging from 0 "Almost Never" to 3 "Almost Always." Higher scores indicated better self-perceived skills. Changes in skill levels were investigated using paired t-tests.

School Attitude Scales

Four different areas of school attitudes were measured including academic self-perceptions (α = .84 to .86), attitudes toward school (α = .87 to .93), goal valuation (α = .87 to .88), and motivation/self-regulation (α = .93). The academic self-perception scale measured the perception/confidence that students had in their own skills. One question was "I feel that I can learn new ideas quickly." The attitudes toward school scale measured students' self-reported interest in and affect toward school. One item was "My school is a good match for me." The goal valuation scale measured how much students valued a task. One question was "It is important to me to get good grades." The motivation/self-regulation scale measured how self-motivated students were and how good they were at self-monitoring. One question was "I use a variety of strategies to learn new material in high school."

Results

Prior to attending the program, these teens rated themselves lowest on speech communication, written communication and fundamentals of leadership and highest on character building, personal skills and decision-making. As shown in Table 2, teens who participated in the Youth Institute Intensive Summer Program reported significant improvements in Fundamentals of Leadership Skills, t (169) = 8.35, $p < .05$, Written Communication Skills, t (167) = 7.77, $p < .05$, Speech Communication Skills, t (168) = 8.15, $p < .05$, Character Building Skills, t (168) = 4.45, $p < .05$, Group Dynamic Skills, t (167) = 6.23, $p < .05$, Decision-Making Skills, t (169) = 7.18, $p < .05$, Problem Solving Skills, t (168) = 5.85,

$p < .05$, Personal Skills, t (166) = 7.26, $p < .05$, and Planning Skills, t (167) = 7.17, $p < .05$. The greatest gains were found on fundamentals of leadership, speech communication, and problem solving skills.

Table 2
2003 – 2007 Summer Youth Institute Participant Report of Changes in Leadership Skills

	Start of Summer			End of Summer		
Skills	Mean	SD	N	Mean	SD	Difference
Fundamentals of Leadership	2.24	.56	170	2.58	.37	.34*
Written Communication	2.13	.55	168	2.43	.42	.30*
Speech Communication	2.05	.55	169	2.37	.41	.32*
Character Building	2.53	.36	169	2.64	.32	.12*
Group Dynamics	2.31	.45	168	2.51	.38	.21*
Decision-Making	2.38	.41	170	2.61	.37	.23*
Problem-Solving	2.26	.71	169	2.58	.41	.32*
Personal	2.45	.41	167	2.66	.30	.21*
Planning	2.28	.51	168	2.54	.39	.26*

*p<.05

Technology Use

Technology use was measured by participants' self-report of their frequency of use of 12 types of technology. Participants rated themselves on a scale ranging from 1 "Never" to 4 "Daily." Higher scores indicated greater frequency of use. Prior to entering the program, participants rated their frequency of use highest on accessing the Internet, using computers at home and school, and using computers to complete schoolwork. Their least frequent use was in buying things on the Internet, creating web pages and creating graphic designs with computer software and code applications.

As shown in Table 3, study participants reported significantly more frequent use of 11 of the 12 technology use categories including using computers at home and school, t (139) = 2.24, p < .05, sending email, t (136) = 5.86, p < .05, accessing the Internet, t (135) = 3.47, p < .05, creating web pages, t (125) = 7.77, p < .05, creating graphic designs with computer software and applications, t (128) = 9.23, p < .05, using word processing software applications to write text, t (138) = 5.06, p < .05, using data processing software applications for databases or spreadsheets, t (133) = 5.19, p < .05, using digital video equipment, t (136) = 7.31, p < .05, participating in Internet chatrooms or discussions, t (135) = 4.06, p < .05, buying things on the Internet, t (127) = 3.02, p < .05, and using the computer to complete school assignments, t (139) = 3.06, p < .05, at the end of the YI Intensive Summer program. The greatest gains were found in creating graphic designs with computer software and applications, creating web pages and using digital video equipment.

Table 3
2003 – 2007 Summer Youth Institute Participant Report of Changes in Technology Use

Technology Use	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
I currently use the computer at home and school.	3.24	.94	140	3.44	.87	.20*
I send email.	2.32	1.06	137	2.95	1.01	.63*
I access the Internet (websites, surf the web).	3.29	1.00	136	3.59	.76	.29*
I create web pages.	1.39	.86	126	2.24	.97	.85*
I create graphic designs with computer software and code applications (HTML, Dreamweaver, etc.).	1.53	.99	129	2.67	1.06	1.14*
I use word processing software applications to write text.	2.86	.94	139	3.24	.83	.38*
I use data processing software applications for databases or spreadsheets.	1.86	.98	134	2.43	.99	.57*
I use digital video equipment (cameras/video).	2.07	1.09	137	2.83	.91	.76*
I participate in Internet chat rooms/discussion boards/listservs.	2.01	1.17	136	2.54	1.14	.52*
I play computer games.	2.61	.96	137	2.71	1.00	.10
I buy things on the Internet.	1.33	.73	128	1.63	1.04	.30*
I use the computer to complete school assignments.	3.15	.87	140	3.36	.79	.21*

*p<.05

Technology Competence

Technology competence was measured by participants' self-report of knowledge in nine different areas. Participants rated themselves on a scale ranging from 1 "No knowledge" to 4 "Excellent knowledge." Prior to program participation, teens reported their highest levels of knowledge in the use of input and output devices to successfully operate computers, VCRs, audiotapes, etc., working collaboratively with others to use technology to compile, synthesize,

produce, and disseminate information, and using technology tools to locate, evaluate, and collect information from a variety of sources.. Their lowest levels of knowledge were in the areas of using technology tools for managing and communicating personal/professional information, using a variety of media and formats to communicate information and ideas effectively, and using technology in the development of strategies for solving problems in the world.

As shown in Table 4, teens who participated in the YI Intensive Summer Program reported significant improvement in all the technology competency areas including using input and output devices to successfully operate computers, VCRs, audiotapes, etc, (163) = 5.66, $p <$ .05, using a variety of media and technology resources to create knowledge products for audiences, (163) = 10.44, $p < .05$, working collaboratively with others to use technology to compile, synthesize, produce, and disseminate information, (162) = 5.50, $p < .05$, creating multimedia products with support from teachers, family members, or student partners, t (162) = 10.59, $p < .05$, using technology tools to locate, evaluate, and collect information from a variety of sources, (162) = 6.65, $p < .05$, using technology tools to process data and report results, t = (162) = 7.90, $p < .05$, using technology in the development of strategies for solving problems in the world, t = (159) = 7.37, $p < .05$, using technology tools for managing and communicating personal/professional information, t = (163) = 9.48, $p < .05$, and using a variety of media and formats to communicate information and ideas effectively, t = (161) = 8.96, $p < .05$. The greatest knowledge gains were found on using a variety of media and technology resources to create knowledge products for audiences, using technology tools for managing and communicating personal/professional information, and creating multimedia products with support from teachers, family members, or student partners.

Table 4
2003 – 2007 Summer Youth Institute Participant Report of Changes in Technology Competencies

Technology Competency	Before Summer			End of Summer		
	Mean	SD	N	Mean	SD	Difference
Use input and output devices to successfully operate computers, VCR's, audiotapes, etc	3.18	.84	164	3.57	.63	.39*
Use a variety of media and technology resources to create knowledge products for audiences	2.65	.98	164	3.52	.64	.87*
Work collaboratively with others to use technology to compile, synthesize, produce, and disseminate information	3.02	.91	163	3.44	.67	.42*
Create multimedia products with support from teachers, family members, or student partners	2.63	.98	163	3.48	.63	.86*
Use technology tools to locate, evaluate, and collect information from a variety of sources	2.88	.87	163	3.39	.70	.51*
Use technology tools to process data and report results	2.61	.90	163	3.26	.72	.65*
Use technology in the development of strategies for solving problems in the world	2.36	.94	160	3.02	.77	.66*
Use technology tools for managing and communicating personal/professional information	2.18	.95	164	3.05	.86	.87*
Use a variety of media and formats to communicate information and ideas effectively	2.32	.96	162	3.10	.83	.78*

*p<.05

School Attitudes

As shown in Table 5, teens who participated in the Youth Institute Intensive Summer Program reported no significant changes in their attitudes toward school.

Table 5
2005 – 2007 Summer Youth Institute Participant Report of Changes in School Attitudes

	Before Summer			End of Summer		
School Attitude Scale	Mean	SD	N	Mean	SD	Difference
Academic Self-Perceptions	5.45	.82	97	5.47	.83	.03
Attitudes Toward School	5.35	1.24	96	5.23	1.27	-.12
Goal Valuation	6.40	.76	97	6.52	.72	.13
Motivation/Self-Regulation	5.44	1.02	97	5.49	.98	.05

*p<.05

Conclusions

Participants in the YMCA Youth Institute Intensive Summer Program between 2003 and 2007 reported significant improvements in all areas of leadership skills, and technology competencies. They also reported significant increases in all but one area of technology use. However, there were no significant changes found in attitudes toward school.

The findings of improvement in all nine leadership skill areas suggests that the wilderness retreat, project-based learning and other program components helped participants develop a diverse range of leadership skills. These findings indicate that participants developed leadership and communication skills which should prove very useful in both the school and work arenas.

Participants also reported significant gains in 11 of the 12 technology use areas. Participants self-reported significant increases in technology use in creating web pages, working collaboratively with others to use technology, creating graphic designs with computer software,

creating multimedia products, word processing applications for text and databases, using technology tools in a multitude of applications, and using digital video equipment. These findings are not surprising given that each of these areas was emphasized during the summer program. The only area where there was not a significant improvement was in playing computer games, which was clearly not a focus of the program. It does appear that the curriculum helped youth to gain the skills to use a wide variety of technology.

Participants also self-reported significant knowledge gains on all nine technology competencies. These findings provide additional support for the idea that knowledge and skill gains were a result of the program. The breadth of the material covered by the summer program is clearly evident given the broad range of competency gains found here. The skill gains, in the latest technologies, should help participants to do better in school as well as to prepare them for a variety of professional fields.

There were no significant changes in school attitudes at the end of the YI Intensive Summer program. It is possible that these measures where not effected since the youth were not in school during the times in which the survey was administered. However, if a goal of the Youth Institute is to improve school attitudes (motivation, assignment completion), then it may be useful to formalize the program's approach to supporting academic achievement and long-term commitment to college for all participants. Discussions regarding education may need to be built into the summer program. For example, program staff could meet with participants to discuss course schedules and progress in school or workshops could be held with youth or their parents to encourage college readiness and/or study skills.

Overall, these findings indicate that the Youth Institute framework is accomplishing at least some of their goals, particularly in the areas of positive youth development and technology. YI Intensive Summer program participants gained multiple new skills and competencies as

theorized in the model. In addition, some of the leadership growth may also serve as proxy indicators of improvement in sense of self-efficacy and self-confidence. Taken together, these finding are exciting and suggest program effectiveness in these areas. They also underscore the potential for "technology" programs, when delivered thoughtfully, should be able to positively impact other areas in the lives of youth.

References

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