

Leadership, Technology and School Attitude Outcomes for Long Beach YMCA High School Youth Institute 2005 Alumni at the End of Year One

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Introduction

The YMCA of Greater Long Beach Youth Institute is a program that uses technology as an integral mechanism for promoting positive youth development and enhancing the academic success and career readiness of low-income, culturally-diverse high school students. Classes enter each summer with an intensive eight-week program. Upon graduation from the summer program, participants become “Youth Institute Alumni,” who are then able to voluntarily participate in a wide range of year-round programs throughout their high school and, potentially, their college years. Involvement opportunities include, but are not limited to, digital art labs, homework assistance, academic advising, community service, equipment check-out, field trips, dance clubs, paid technology and mentoring assignments, community leadership positions and social work support.

Three of the goals of the program are: (a) To improve the technology knowledge and skills of participants by providing intensive, year-round enrichment experiences that fully integrate and emphasize state-of-the-art technology, (b) To use youth development principles and project-based learning to develop leadership and decision-making skills, and (c) to improve youth attitudes toward school. This report investigates the effects of the program on achieving these goals after one-year of program participation.

Methods

Data Collection

Program staff collected self-report data from all entering 2005 YMCA Youth Institute participants on their first day of the program, and, from as many as possible, approximately one year later. 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 of the California State University, Long Beach, Department of Social Work, specifically to evaluate this project. The Technology Inventory measures technology competency. The third survey was the School Attitude Assessment Survey – Revised Edition (D. B. McCoach, 2002). This survey measures five areas of school attitudes. This instrument has been shown to have strong reliability and validity.

Sample

Forty-one students entered the YMCA Youth Institute in 2005. Of these 41 entering participants, 25 (61%) returned both the beginning and end of year one surveys. Attrition analyses were conducted to determine if the participants included in the sample differed from those who did not have pre- test and post-test data. There were no significant gender, ethnic, or grade differences between the two groups.

As shown in Table 1, the participants who were included in this study ranged from 13 to 17 years of age at the start of the program. Two-thirds of the youth were 13 or 14 years of age at the start of the program. There were more females (64%) than males (36%). Latinos (36%) were the largest ethnic group, followed by African-Americans (28%). Sixty-eight percent of the sample was 8th or 9th graders when they began the program.

Table 1
Sample Description of 2005 Youth Institute Alumni
(N=25)

| | <u>%</u> | <u>N</u> |
|---------------------------------|----------|----------|
| ◆ Age at Start of Program | | |
| 13 | 24% | 6 |
| 14 | 44% | 11 |
| 15 | 12% | 3 |
| 16 | 16% | 4 |
| 17 | 4% | 1 |
| ◆ Gender | | |
| Female | 64% | 16 |
| Male | 36% | 9 |
| ◆ Ethnicity | | |
| Latino | 36% | 9 |
| African-American | 28% | 7 |
| Asian-American/Pacific Islander | 12% | 3 |
| Caucasian | 12% | 3 |
| Mixed Ethnicities | 12% | 3 |
| ◆ Grade | | |
| 8 th | 40% | 10 |
| 9 th | 28% | 7 |
| 10 th | 20% | 5 |
| 11 th | 12% | 3 |

Analyses

Measures

Extent and Type of Program Involvement

There were different types as well as levels of involvement in the YI Program throughout the year. The Digital Arts Lab, Community Service Projects and Academic Advising were the highest and most frequently attended activities.

Leadership Skills

Cronbach's Alpha (α) was used to examine the reliability of the leadership skill scales. Nine types of leadership skills were measured including fundamentals of leadership ($\alpha = .71$ to $.80$), written communication ($\alpha = .80$ to $.88$), speech communication ($\alpha = .75$ to $.86$), character-building ($\alpha = .88$ to $.90$), decision-making ($\alpha = .73$ to $.86$), group dynamics ($\alpha = .84$ to $.87$),

problem-solving ($\alpha = .84$ to $.85$), personal skills ($\alpha = .87$ to $.92$), and planning ($\alpha = .89$).

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 skills from program entry until the end of Year One were investigated using paired t-tests.

Technology Competencies

The Technology Inventory investigated changes in technology competencies. These items were looked at individually. Some example questions were: “I can use technology to locate, evaluate, and collect information from a variety of sources,” and “I can use technology in the development of strategies for solving world problems.” The response categories ranged from “1” No Knowledge to “4” Excellent Knowledge.

School Attitudes.

Cronbach’s Alpha (α) was used to examine the reliability of the school attitude scales. Five areas of school attitudes were measured including academic self-perceptions ($\alpha = .74$ to $.81$), attitudes toward teachers and classes ($\alpha = .87$ to $.93$), attitudes toward school ($\alpha = .95$), goal valuation ($\alpha = .90$ to $.97$), and motivation/self-regulation ($\alpha = .93$ to $.94$). Participants rated their attitudes on a scale ranging from 1 “Strongly Disagree” to 7 “Strongly Agree.” Higher scores indicate better school attitudes.

Results

Extent and Type of Program Involvement

As shown in Table 2, there were several different types of Youth Institute activities between September, 2005 to May, 2006. The frequency in which each participant was involved in each activity varied.

Table 2
Extent and Type of Involvement in Program Activities
2005 Youth Institute Alumni

| Class of 2005 | | | | |
|-------------------------------|----|------|----|---------|
| Activity | N | Mean | SD | Range |
| Digital Arts Lab | 25 | 49 | 29 | 6 - 123 |
| Community Service Projects | 21 | 6 | 8 | 1 - 35 |
| Academic Advising | 21 | 5 | 4 | 1 - 21 |
| Equipment Checkout | 18 | 4 | 3 | 1 - 13 |
| Fall Meeting | 20 | 1 | 0 | 1 |
| San Francisco Field Trip | 16 | 1 | 0 | 1 |
| Holiday Party | 16 | 1 | 0 | 1 |
| San Francisco Meeting | 15 | 1 | 0 | 1 |
| Tomorrow's Leader Celebration | 4 | 1 | 0 | 1 |
| YI Senior Dinner | 3 | 1 | 0 | 1 |
| Total | 25 | 58 | 32 | 9 -133 |

Comparison between Program Start and After Year One

Leadership Skills

As shown in Table 3, study participants reported significant improvements on Fundamentals of Leadership, $t(23) = 3.31, p < .05$, Speech Communication Skills, $t(23) = 4.07, p < .05$, Group Dynamic Skills, $t(23) = 3.56, p < .05$, Decision-Making Skills, $t(24) = 2.51, p < .05$, Problem-Solving Skills, $t(23) = 2.90, p < .05$, and Planning Skills, $t(24) = 2.94, p < .05$ after their first year of program participation. They also reported improvement in the area of Written Communication, $t(23) = 1.80, p < .10$. Prior to attending the program, these teens rated themselves lowest on speech communication, written communication and problem-solving and highest on character building and personal skills. The greatest gains were found in fundamentals of leadership, speech communication and problem-solving.

Table 3
Participant Report of Changes in Leadership Skills

| Scale | Beginning of Program | | | End of Year One | | |
|----------------------------|----------------------|-----|----|-----------------|-----|------------|
| | Mean | SD | N | Mean | SD | Difference |
| Fundamentals of Leadership | 2.17 | .46 | 24 | 2.53 | .34 | .36** |
| Written Communication | 2.18 | .56 | 24 | 2.41 | .40 | .23* |
| Speech Communication | 1.92 | .50 | 24 | 2.31 | .35 | .39** |
| Character Building | 2.56 | .34 | 25 | 2.60 | .40 | .04 |
| Group Dynamics | 2.27 | .36 | 24 | 2.54 | .41 | .27** |
| Decision-Making | 2.34 | .35 | 25 | 2.56 | .38 | .22** |
| Problem-Solving | 2.17 | .64 | 24 | 2.54 | .40 | .37** |
| Personal | 2.42 | .36 | 25 | 2.51 | .42 | .09 |
| Planning | 2.24 | .43 | 25 | 2.51 | .38 | .27** |

**p<.05

*Approaching significance, p<.10

Technology Competence

As shown in Table 5, study participants reported significant improvements in their competencies with: (a) using a variety of media and technology resources to create knowledge products for audiences inside and outside the classroom, $t(23) = 2.09, p < .05$; (b) working collaboratively with others to use technology to compile, synthesize, produce and disseminate information, $t(23) = 3.39, p < .05$; (c) creating multimedia products with support from teachers, family members, or student partners, $t(23) = 2.74, p < .05$; (d) using technology in the development of strategies for solving problems in the world, $t(22) = 3.22, p < .05$; and (e) using

technology tools for managing and communicating personal/professional information, $t(23) = 3.92, p < .05$ at the end of year one. They also reported some improvement in the use of input and output devices to successfully operate computers, VCR's, audiotapes, etc., $t(23) = 1.97, p < .10$. The greatest knowledge gains were found on the use of technology for managing and communicating personal/professional information, work collaboratively with others to use technology to compile, synthesize, produce and disseminate information, and the use of technology in the development of strategies for solving problems in the world.

Table 5
Participant Report of Changes in Technology Competencies

| | Beginning of Program | | | End of Year One | | Difference |
|--|----------------------|------|----|-----------------|------|------------|
| | Mean | SD | N | Mean | SD | |
| Use input and output devices to successfully operate computers, VCR's, audiotapes, etc. | 3.25 | 1.03 | 24 | 3.71 | .55 | .46* |
| Use a variety of media and technology resources to create knowledge products for audiences | 2.92 | 1.02 | 24 | 3.33 | .76 | .42** |
| Work collaboratively with others to use technology to compile, synthesize, produce, and disseminate information. | 2.71 | 1.20 | 24 | 3.54 | .59 | .83** |
| Create multimedia products with support from teachers, family members, or student partners. | 2.58 | 1.06 | 24 | 3.29 | .95 | .71** |
| Use technology tools to locate, evaluate, and collect information from a variety of sources. | 2.83 | 1.13 | 24 | 3.29 | 1.04 | .46 |
| Use technology tools to process data and report results. | 2.59 | 1.01 | 22 | 3.05 | .95 | .45 |
| Use technology in the development of strategies for solving problems in the world. | 2.22 | 1.04 | 23 | 3.00 | .95 | .78** |
| Use technology tools for managing and communicating personal/professional information. | 1.96 | 1.00 | 24 | 2.92 | .97 | .96** |
| Use a variety of media and formats to communicate information and ideas effectively. | 2.25 | 1.07 | 24 | 2.62 | 1.06 | .37 |

**p < .05

*Approaching significance, p < .10

School Attitudes

As shown in Table 6, there were no significant differences found between the start of the program and end of Year One scores for any of the school attitude scales.

Table 6
Participant Report of Changes in School Attitudes

| Scale | Beginning of Program | | | End of Year One | | |
|----------------------------|----------------------|------|----|-----------------|------|------------|
| | Mean | SD | N | Mean | SD | Difference |
| Academic Self-Perceptions | 5.59 | .74 | 24 | 5.37 | .85 | .22 |
| Attitudes Toward Teachers | 5.32 | .86 | 24 | 4.78 | 1.29 | .55 |
| Attitudes Toward School | 5.27 | 1.32 | 24 | 5.05 | 1.76 | .22 |
| Goal Valuation | 6.36 | .92 | 24 | 6.37 | 1.08 | -.02 |
| Motivation/Self-Regulation | 5.42 | 1.21 | 24 | 5.39 | 1.26 | .03 |

**p<.05

*Approaching significance, p<.10.

Conclusions

The majority of prior evaluations on the effects of the YMCA Youth Institute of leadership and technology were taken at the beginning and end of the intensive summer program when youth were involved in technology and leadership development seven hours a day, five days a week. While these outcomes have always been extremely positive, they looked only at program effects at the immediate end of a carefully designed and intensive program when youth had relatively little contact with their “typical” school and social lives.

The first year-long report was written last year and two previous Youth Institute classes were evaluated together. The current study builds on these prior studies in that it investigated the long-term effects of the program for the class of 2005 and it compares these effects to last year’s report.

Extent and Type of Program Involvement

The types and extent of involvement by Youth Institute participants has remained relatively stable throughout the three years of program evaluation. The Digital Arts Lab,

Community Service Projects and Academic Advising remain the three most attended activities in the program.

Leadership Skills

At the end of one year of Youth Institute involvement, these participants evidenced significant skill gains in the areas of fundamentals of leadership, speech communication, group dynamics, decision-making, problem-solving, and planning. In addition, they reported some improvement in the areas of written communication skills. These results were similar to the findings from last year's Youth Institute Outcome Report (which consisted of both the 2003 and 2004 YI classes). There were a few differences this year which were as follows: 1) this year, written communication approached significance, whereas last year, it was significant, and 2) this year character building and personal skills were not significant, whereas last year they were approaching. Both of these differences, however, can most likely be explained by the smaller sample size this year (25 this year compared to 42 last year). These findings, over the last three years, provide support for the notion that Youth Institute participants do develop leadership skills in the program that they are able to use and maintain even outside of the highly structured and supportive Youth Institute environment. The increases in many of these areas should prove beneficial in their high school, later education and job experiences.

Technology Competence

At the end of one year, participants showed significant increases in the use of media and/or technology to 1) create knowledge products for audiences, 2) work collaboratively with others to compile, synthesize, produce, and disseminate information, 3) create multimedia products with support from teachers, family members, or student partners, 4) develop strategies for solving problems in the world, and 5) manage and communicate personal/professional information. In addition, they reported some improvement in the use of output devices to successfully operate computers, VCR's, audiotapes, etc.

In comparing these findings to last year's report, there were a few differences noted. This year working collaboratively with others to use technology to compile, synthesize, produce, and disseminate information showed significance, whereas last year it did not. It is possible that this group worked more collaboratively throughout the year than prior groups. Also, three categories that were significant last year, did not show significance this year. These categories were: 1) the use of technology tools to locate, evaluate, and collect information from a variety of sources, 2) the use of technology tools to process data and report results, and 3) the use of a variety of media and formats to communicate information and ideas effectively. Once again, each of the above three categories did show an increase this year, but not a significant one, which could be due to the smaller sample size this year compared to last.

School Attitudes

There were no significant changes in school attitudes at the end of one year of Youth Institute participation. No comparison is possible to last year's report since the School Attitude Survey was new this year. One possible explanation for there being no significant changes in school attitudes could be due to the fact that when participants compare their relationships with the Youth Institute staff to their teachers at school, their relationships with their teachers may seem less satisfying. It may also be difficult, if not impossible, for the program to change teacher and school relations since it does not have the ability to change or influence the school environment. 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 the academic achievement and long-term commitment to college for all participants. For example, program staff could meet each semester 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 are quite positive and suggest that the YMCA Youth Institute is helping youth to develop long-term gains in both leadership and technology competence.

However, additional interventions may need to be implemented to address school attitudes.