Assessment Report on the Effectiveness of the Youth Game Camp Prototype

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Assessment Report on the Effectiveness of the Youth Game Camp Prototype

EXECUTIVE SUMMARY

Pixel Arts personnel articulated the following as their outcome goals for the youth game camp. The evidence reported suggests that these goals were met.

1. Creation of a multi-generational, productive, and fun learning environment where youth are comfortable seeking help and support in a variety of ways

2. Creation of a learning environment that fosters positive achievement motivation and academic self confidence

3. Learning enabled through free choice (on the part of the learners) and expert instruction

4. Learning in a safe environment, where mistakes are made but interpreted as teachable moments (i.e. implementation of the mindset of “failing forward”)

5. Creation of an environment where youths' love for games and gaming translates into opportunities for fostering STEM educational initiatives

6. Provision of a meaningful learning experience for youth who are likely (for socio-economic and/or regional reasons) to have limited opportunities for rich STEM educational experiences.

Keywords
Education, Assessment, Game Education, Pixel Arts

Disciplines
Psychology

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Assessment Report on the Effectiveness of the Youth Game Camp Prototype

Camp Site: Portland Youth Builders Main Campus
4816 SE 92nd Avenue Portland, OR 97266
July 27th & 28th 2013

Prepared for Pixel Arts Personnel by

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EXECUTIVE SUMMARY

1. Youth achieved individually stated learning goals.
   All youth were asked to state at least one learning goal at the start of camp and then revisit that goal at the end of camp to comment on whether and/or how the goal was achieved.
   
   - 32 youth remarked that their goals were achieved, and described how
   - 8 youth did not complete their portfolios, thus no evidence was gathered to determine whether their goals were met
   - 0 youth reported not meeting their learning goals

2. Youths’ confidence in their computing skills increased.
   All youth rated their confidence in their computer-skills on a scale of 1 – 5, with 1 = “not at all confident” and 5 = “very confident.” They did this at the start and again at the end of camp.
   Youth entered with quite a bit of variability in their self-reported confidence, and no matter their entering confidence, 55% of youth who completed their portfolios reported an increase in their confidence at the end of camp.

3. Youth became more comfortable working in a multigenerational environment.
   Youth were asked to report who they preferred asking for help in scholastic environments: no one, peers, adults, or either peers or adults. They reported on this at the beginning, and again at the end of camp. Whereas 22 youth reported at the outset that they were comfortable asking either adults or peers for help, 2 reported preferring their peers, 4 reported working alone, and 11 reported preferring adult support. By the end of camp though, of the 17 youth who reported discomfort in seeking help from a variety of sources, 7 (41%) reported a positive change such that their comfort in seeking learning support broadened over the course of camp.

4. Youth attending this particular camp arrived with healthy motivational profiles.
   Youth completed quantitative assessments of their camp-confidence (i.e., self-efficacy), the degree to which they were motivated by internal and external forces, and the degree to which they utilize metacognitive learning strategies in scholastic settings. They did this at the beginning and again at the end of camp.

   **Self-Efficacy.** On a scale of 1 – 5, with 1 = “Very true” and 5 = “Not at all true”, the pre-camp average rating was 1.70, indicating that this group arrived quite confident in their abilities to engage in the camp process.

   **Metacognition.** On a scale ranging from 0 = “Completely false” to 100 = “Completely true,” the pre-camp average was 70, indicating that this group, on the whole, approaches scholastic tasks in a thoughtful, engaged manner.
Pixel Arts
Play > Make > Design

**Motivation Quality.** The motivation instrument yields two indices, the degree to which learners are driven by external factors (controlled motivation) and the degree to which learners are driven by internal factors (autonomous motivation), noting that all learners experience both kinds of motivations. When the balance is in favor of autonomy, motivation is healthier.

**Autonomous motivation.** On a scale ranging from 1 – 4, with 1 = “Very true” and 4 = “Not at all true,” the pre-camp average was 1.97, indicating a healthy sense of internal motivation.

**Controlled motivation.** On a scale ranging from 1 – 4, with 1 = “Very true” and 4 = “Not at all true,” the pre-camp average was 2.20, indicating that they do experience some external sense of control, though they experience autonomous motivation more strongly.

Pixel Arts personnel articulated the following as their outcome goals for the youth game camp. The evidence above suggests that these goals were met.

- Creation of a multi-generational, productive, and fun learning environment where youth are comfortable seeking help and support in a variety of ways
  - 41% of youth initially indicating some hesitance in working with others improved in this regard during camp.

- Creation of a learning environment that fosters positive achievement motivation and academic self confidence
  - Youth left with the same, positive & healthy motivational profiles they arrived with, indicating that the tone of the camp fostered their learning.

- Learning enabled through free choice (on the part of the learners) and expert instruction
  - Met by design, with the modular organizational scheme
  - All youth reported learning something new at camp. Some youth had particular learning goals that were indeed met, whereas other youth reported learning something completely new.

- Learning in a safe environment, where mistakes are made but interpreted as teachable moments (i.e. implementation of the mindset of “failing forward”)
  - Camp mentors were trained in advance to work with youth in a positive manner, and there was no evidence nor indication that youth felt they couldn’t make mistakes. Indeed, though some youth entered camp expressing nervousness about their ability to effectively engage, youth left camp reporting that there was no need for nervousness of any kind.

- Creation of an environment where youths’ love for games and gaming translates into opportunities for fostering STEM educational initiatives
80% of participating youth indicated a desire to continue working on skills learned at camp.

The remaining 20% did not report a lack of interest, rather they did not complete their portfolios.

Provision of a meaningful learning experience for youth who are likely (for socio-economic and/or regional reasons) to have limited opportunities for rich STEM educational experiences.

One parent remarked that programing and design activities like those at this camp had recently been cut from the local high school where the participating youth attends.

Participating youth came from all over the greater Portland Metro region, spanning many different socio-economic areas.

4 participating youth qualify for Title 1 support (i.e., free lunch).
1. Engage stakeholders
The camp and the assessment processes were designed together in full collaboration between Dr. Kleinknecht and the camp developers. Thus stakeholders were involved in all aspects of the assessment design.

2. Describe Program
The organization and flow of the camp emerged from a set of mutually agreed upon goals. That is, the camp was designed with the goals in mind. Camp goals included:

- Creation of a multi-generational, productive, and fun learning environment
- Learning enabled through free choice (on the part of the learners) and expert instruction
- Learning in a safe environment, where mistakes are made but interpreted as teachable moments (i.e. implementation of the mindset of “failing forward”)
- Creation of a learning environment that fosters positive achievement motivation and academic self confidence
- Creation of an environment where youths’ love for games and gaming translates into opportunities for fostering STEM educational initiatives
- Provision of a meaningful learning experience for youth who are likely (for socio-economic and/or regional reasons) to have limited opportunities for rich STEM educational experiences.

3. Focus evaluation design
The evaluation process included both quantitative and qualitative assessment tools. Youth’s motivation and confidence were measured with self-report instruments. The quality of camp engagement was determined by evaluating the youths’ camp portfolios.

4. Gather credible evidence
Three quantitative assessment instruments were administered to youth before (to establish baseline indicators) and after participating in camp

i. Assessment of Self efficacy as it relates to participation in camp: questions related to youth’s confidence in their ability to succeed in the tasks ahead of them

ii. Assessment of Metacognition in scholastic contexts: questions related to whether youths used effective strategies for learning and studying
iii. Assessment of healthy **Achievement Motivation**: questions yielded an indication of the degree to which youth are academically motivated by external forces (i.e., “controlled motivation”) or internal forces (i.e., “autonomous motivation”).

**Camp portfolios** yielded additional qualitative information and were organized into three sections

i. Youth were asked to record answers to a series of questions before camp started about their goals and concerns about the camp.

ii. Youth documented their work in each camp module they participated in. They were encouraged to describe what they learned and were given the opportunity to insert digital pictures.

iii. Youth were asked to revisit their pre-camp responses and record how they felt about camp, after participating. Youth additionally recorded their comments regarding what they most enjoyed and what they wanted to continue learning about after camp.

* Camp portfolios served a dual purpose of becoming a camp keepsake for youth, so they had something tangible to refer back to at a later time.

5. **Conclusion**
See documentation in the pages that follow

6. **Ensure use and share lessons learned?**
This report is available for review by any and all interested parties. Pixel Arts values open-source procedures and are free to make this information available to anyone who may be interested in it.
ASSESSMENT DETAILING: METHOD

Quantitative Measures

1. “Camper Confidence Survey:” a five-item assessment of youth’s confidence in their ability to fully engage in the camp activities (technical term: self-efficacy).

   Sample items:
   - “I’m certain I can master the skills taught in game-camp.”
   - “I’m certain I can figure out how to do the most difficult things in game camp.”
   - “Even if the work is hard, I can learn it.”

2. “Thinking and Learning Scale;” a 16-item survey evaluating the degree to which youth approach learning with metacognitive strategies (i.e., planful, learning oriented mindsets). A higher score on this inventory signifies greater adherence to self-awareness and self-regulation in learning contexts.

   Sample items:
   - “I think about what I really need to learn before I start to study.”
   - “I think of different ways to do my work and choose the best one.”
   - “When I am done with my work I think about what I learned.”

3. “Why I do Things:” a 32-item assessment evaluating the quality of youths’ motivation for learning. The items can be grouped into 4 subscales, which can be used alone or grouped further into broader categories.

   a. Autonomous motivation (Intrinsic + Identified): motivation centering inward, reflecting personal interests (intrinsic) or recognition that you will benefit from the engagement (identified). This form of motivation, when stronger than controlled, is associated with optimal academic achievement (and positive outcomes for other personal factors as well).

      Sample items:
      - I do my homework because I want to understand the subject.
      - I work on my classwork because I want to learn new things.
      - I try to answer hard questions in class because it’s important to me to try to answer hard questions in class.

   b. Controlled motivation (Introjected + External): motivation centering outward, reflecting social forces: doing the work so others don’t think poorly of you (introjected), working for a grade or tangible reward rather than a skill (external). This form of motivation, when stronger than autonomous, is associated with less-than-optimal achievement.

      Sample items:
      - I do my homework because I’ll get in trouble if I don’t.
      - I work on my classwork because that’s the rule.
      - I try to answer hard questions in class because I want the teacher to say nice things about me.
c. It’s expected that learners are motivated by both forces, but as noted here, the ideal is to experience more autonomous than controlled motivation overall. In school contexts, you expect to see greater sense of controlled motivation with younger learners, because much of what they do in school is actually controlled by the environment (i.e., they don’t get a lot of free choice in what and how they study). That is, in an ideal situation, you would expect to see controlled motivation scores decrease as a function of age, assuming the environment a learner is in fosters motivation appropriately.

Qualitative Measures: Game Camp Portfolios

1. Camp portfolios were designed to:
   - Provide stakeholders with evidence that broad camp goals were met
   - Capture some of the qualities (confidence, reasons for seeking out new knowledge) noted above in the camper’s own words.
   - To encourage youth to set goals for themselves (a skill that feeds their sense of autonomy)
   - Encourage growth in the youths’ mindsets about learning
   - Encourage healthy reflection on what was learned from the camp
   - Serve as a keepsake documenting their camp engagement

2. Portfolio design details
   Page 1: Prompts for self-reflection (to encourage autonomous motivation) and to foster team building
   - “Describe yourself”
   - “When I think about making video games, my ideas are inspired by …”

   Page 2: Prompts for goal setting, efficacy, and attitudes
   - When I leave this camp, I most want to be able to …
   - Right now, I am _____ confident in my computer skills
   - At this camp, I am most nervous about …

   Pages 3 – 6: Documentation of work
   - Youth were encouraged to describe what they learned in each module and were given the option of inserting digit photos to illustrate

   Pages 7 – 8; Prompts for reflection on what was learned and on whether goals were accomplished
   - At the start of camp I said I most wanted to be able to … and it turns out that …
   - Of all the work I created at camp, I am most proud of …

3. Portfolio Implementation
   Portfolio construction and completion was discussed during a day-long mentor training programing. One program segment included a theoretical overview of the non-cognitive skills the camp intended to promote (motivation, efficacy, and metacognition) and discussion of how mentor behavior could influence these skills. Discussion of the portfolio process was embedded in this overview. As well, mentors were provided with a handout to guide the portfolio introduction and completion process.
4. Portfolio Coding Method

Following a “grounded theory” tradition of meaning-making from qualitative data, the following steps were taken:

1. Global scan for completion. All portfolios were scanned to get a sense of the variation present in portfolio detailing and completion. Initial global comparisons were made between youth flagged with special needs (e.g., diagnoses of ADHD, ASD, and the like) and youth deemed neuro-typical.

2. Youths’ responses to pre- and post- camp portfolio prompts were organized into a tabular format for ease of reading and determination of evidenced growth/change in responses.

3. A trained coder carefully read youths’ responses, taking memo notes along the way to identify themes for further investigation.

4. Using the identified themes as categories, portfolios were evaluated again and category representation tallied.

5. Category representation was evaluated alongside quantitative responses.

6. Conclusions regarding the degree to which camp goals were met were drawn by considering the outcome of the quantitative and the qualitative evaluations.

RESULTS

Youth Demographics

Forty-two youth completed some or all of the survey questions before the start of camp. Of the initial 42, 8 youth were flagged as having special needs (e.g., diagnosis along the ASD spectrum, ADHD, and in one case a dysgraphia). Youth age averaged 13.56, with a range of 9 – 17-years. The modal age was 12-years, 2 youth were under the age of 13, and 4 youth were over the age of 16. Twenty-five youth completed the surveys again after camp. Among the 25 were 2 youth flagged with special needs.
Quantitative Survey Outcomes

<table>
<thead>
<tr>
<th>Measured Variables</th>
<th>Average (SD) Before camp (all youth)</th>
<th>Average (SD) Before Camp (only those youth who answered after camp questions)</th>
<th>Average (SD) After Camp</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Self-Efficacy related to camp engagement</td>
<td>1.70 (0.60) n = 37</td>
<td>1.64 (0.61) n = 25</td>
<td>1.51 (0.56) n = 25</td>
<td>Statistical comparison between pre &amp; post scores shows no difference, implying that the youth came to camp confident and left camp still quite confident in their skills.</td>
</tr>
<tr>
<td>Metacognition related to scholastic engagement</td>
<td>70.76 (20.24) n = 37</td>
<td>75.06 (17.64) n = 25</td>
<td>75.00 (15.38) n = 25</td>
<td>Statistical comparison between pre &amp; post scores shows no difference, implying that the youth in this camp have pretty good study habits and are fairly reflective about ways to engage in their scholastics. This didn’t change while at camp.</td>
</tr>
<tr>
<td>Controlled Motivation related to scholastic engagement</td>
<td>2.20 (0.51) n = 36</td>
<td>2.14 (0.45) n = 24</td>
<td>2.23 (0.54) n = 24</td>
<td>Statistical comparison between pre &amp; post scores shows no difference, implying that the youth in this camp are sort of (i.e., 2= “sort of true of me”) motivated by external forces and during camp this didn’t shift much.</td>
</tr>
<tr>
<td>Autonomous Motivation related to scholastic engagement</td>
<td>*1.97 (0.58) n = 33</td>
<td>*1.86 (0.47) n = 22</td>
<td>1.95 (0.48) n = 22</td>
<td>Statistical comparison between pre &amp; post scores shows no difference, implying that the youth in this camp are already motivated by internal forces and during camp this didn’t shift much.</td>
</tr>
</tbody>
</table>

As indicated in the table above, the subset of youth completing both pre- and post- survey assessments did not show a change in their motivation, confidence, nor metacognition. The numerical stagnancy likely reflects a ceiling effect with these youth though. That is, the youth who completed all assessments entered camp with healthy motivational profiles.

Importantly too though, in contrast the group that did not complete the post-camp surveys contained proportionally more youth with special needs. Of the 7 special-needs youth who completed the camp, only 2 completed the post-camp measures, thus the variability in post-camp scores is also likely artificially restricted in range.

**Portfolio Completion.** Though camp mentors were given a handout on how to guide youth through the portfolio process, not all mentors followed the guide, thus portfolio engagement and completion was highly variable.
• The **Game Design Group** allocated specific mentors to oversee the portfolio commencement process and the youth who began camp in this group rotated through the computers and playing a game called Fluxx. Mentors in this group provided youth who needed it with significant help in interpreting questions and in typing responses. Once all youth completed their portfolios, mentors in this module additionally used the portfolio prompts for team and rapport building, and to establish camp goals, just as intended.

• The **Logic Group** did not follow portfolio prompts for team / rapport building nor for guided goal setting. Instead, mentors just asked youth to say a little bit about themselves. Mentors then told youth about the portfolios, asked them to complete the first three pages, then let youth work on their own. Mentors in this module expressed a reluctance to encourage work on the portfolios and did not provide youth with additional supports as they worked.

• The **Art & Animation Group** first did group introductions and a module overview via a coordinated, team-building/skill building exercise. They then verbally introduced the portfolios by briefly describing what the process would be (e.g., “enter your name here, and spend some time thinking about and answering the questions”). Before youth began their portfolios though, the mentors provided youth with detailed introductions to the work they would do in the module. They then got youth involved in an exercise to work on while rotating through the computers to complete portfolios.

Given the variable nature of portfolio introductions, it is no surprise that the quality of portfolio completion varied as well. Not all youth completed their portfolios and within the complete set, the degree of detailing varied quite a bit. Using a q-sort approach to categorization, portfolio completion appeared to vary along the following descriptive spectrum:

- **38%** of the portfolios contained few, and of those low-quality, answers (e.g., incomplete sentences, awkward formatting) and many blank responses.

- **26%** of the portfolios contained sporadically incomplete answers.

- **18%** of the portfolios were complete, but were completed with terse or only partial and tangential answers.

- **18%** of the portfolios included elaborate responses, inserted images, and were complete or very nearly so.

The variable nature of portfolio introductions and completion invalidates deep interpretation of portfolio responses. However, a surface level examination of portfolio responses yields some important findings relevant to camp goals.
Youth achieved individually stated learning goals. All youth were asked to state at least one learning goal at the start of camp and then revisit that goal at the end of camp to comment on whether and/or how the goal was achieved. All of the 32 youth who answered the goal question at the beginning and at the end of camp remarked that their goals were achieved as they engaged in the module activities. From the information reported, there is no way of knowing whether the remaining 8 youth who did not complete their portfolios felt their goals were met. No youth explicitly stated that a learning goal was not met.

Youths’ confidence in their computing skills increased. All youth rated their confidence in their computer-skills on a scale of 1 – 5, with 1 = “not at all confident” and 5 = “very confident.” They did this at the start and again at the end of camp. Youth entered with quite a bit of variability in their self-reported confidence, and no matter their entering confidence, 55% of youth who completed their portfolios reported an increase in their confidence at the end of camp.

Youths’ interests in game design were piqued. All youth entered in with an interest in game design, though some were quite general whereas others were quite specific. All youth found an opportunity to pursue their initially stated interest. Just under half of the camp participants reported at the end of camp that their interest in the initially stated design element remained steadfast. Some youth were able to take their general interest and narrow it down to a manageable task. Thirty-five percent of participating youth additionally reported that as they became more immersed in camp modules their initial interests grew and shifted as well.

Youth became more comfortable working in a multigenerational environment. Youth were asked to report who they preferred asking for help in scholastic environments: no one, peers, adults, or either peers or adults. They reported on this at the beginning, and again at the end of camp. Whereas 22 youth reported at the outset that they were comfortable asking either adults or peers for help, 2 reported preferring their peers, 4 reported working alone, and 11 reported preferring adult support. By the end of camp though, of the 17 youth who reported discomfort in seeking help from a variety of sources, 7 (41%) reported a positive change such that their comfort in seeking learning support broadened over the course of camp.

ASSESSMENT CONCLUSIONS

Close examination of the quantitative and qualitative assessment materials yields several jumping off points for future youth camp design and management. Though a lack of fidelity in portfolio implementation limits the definitiveness of conclusions drawn, that, in and of itself, yields camp personnel with valuable information going forward. For future camp planning and implementation, the following recommendations are made.

Working with youth with special needs. The camp organizers and mentors were aware of and sensitive to the participating youth flagged as having special needs. During the one-day intensive mentor training, time was devoted to discussing how to sensitively shift focus and expectations
when working with youth who, for example, are flagged as falling along the ASD spectrum. Awareness of the need to attend to youth noted as non-neurotypical was indeed warranted as this group’s responses on the self-efficacy assessment were significantly different than their neurotypical peers at camp. Youth with special needs reported entering in with less confidence in their ability to accomplish their camp goals. As well, the majority of the special needs youth did not complete the post-event quantitative assessment nor did they complete their portfolios. Impressionistically, it appeared that special needs youth were happily engaged in camp activities, though they did not complete the post-camp assessment which makes it hard to know if they were truly as comfortable participating as they could have been.

In future camps, it is recommended that an appropriate number of mentors take on the task of working with the special needs participants much like an instructional aide in the public school system, inasmuch as this is possible. At the very least, camp mentors should be aware of and prepared to more directly engage with special needs youth as they complete the assessment materials. Because the portfolio process was designed to promote youths’ non-cognitive experience (i.e., motivation, confidence and metacognitive engagement), support in completing the portfolios seems particularly important for a group of youth entering with lower confidence.

**Fidelity in portfolio implementation.** From a design perspective, the portfolios served a dual purpose of engaging youths’ non-cognitive experiences at camp. Camp designers intended to not only promote specific game design skills, but to enhance youths’ non-cognitive learning experiences as well. Not only that, but the ideal was that the portfolios would serve as a colorful and complete camp keepsake for youth to reflect on later. It is clear from mentor reports though that this purpose was not adequately conveyed to camp mentors. That is, many mentors did not see the value of the portfolios nor recognize the importance of fidelity in implementation. Further, many mentors expressed concerns with portfolio management. Some felt that it was more important to devote time to specific module activities than to split the time between module work and portfolio completion. Others remarked that the portfolio format was not as useable as it could be. In short, camp mentors found the dual task of module engagement and portfolio management onerous and stressful. As such, in hindsight the lack of fidelity is no surprise.

Because portfolio completion meets an important goal of camps, that of boosting youths’ non-cognitive experiences in learning, these issues must be addressed in future camps. The following recommendations, to this end, are made:

1. **Redesign the portfolios to improve useability.** The number of goal-setting and rapport building questions should be reduced. In the work documentation section, include prompts to guide youths’ entries, rather than keeping the section completely open-ended. More clearly identify where photos should be entered, and reduce the number of options available to youth to streamline time spent in choice. If resources are available, for example, at camp start each youth’s picture can be taken along with one group photo. During portfolio completion at camp-end, youth can insert their personal image and the group image in a pre-determined location.

2. **Improve mentor training.** Mentor training should more directly address the camp goals by making it more explicit that the camp goal of boosting youths’ non-cognitive learning experience is solidified by portfolio completion. That is, more direct discussion during
training to ensure mentor buy-in in the process is needed. Impressionistically, during mentor training for this camp, the mentors understood their role in boosting non-cognitive skills through one-on-one interactions with youth and at this level, their interventions appeared successful. But it is not clear whether they saw the value-added in additionally attending to portfolio completion and that should be addressed in future training.

3. Dedicate support for portfolio completion. Leading a module and guiding portfolio implementation is a tall order for volunteer-mentors with little to no experience in teaching (and anecdotally, the group with the best fidelity to portfolio engagement was led by a mentor with significant teaching experience). To alleviate the stress imposed by asking mentors to do two things at once, a suggestion is to dedicate a team of mentors who are not involved in module teaching, but rather are only assigned portfolio completion duties. In fact, the same mentors who might be flagged as serving as instructional aides for special-needs youth could potentially do this as well, again following the school model where aides pay particular attention to their special needs youth but really support all youth in the classroom. Module mentors should be available to help youth properly document their work, but portfolio-mentors should be available to help youth efficiently and thoroughly complete their portfolios. Every youth should leave with a full and completed portfolio.

Sensitivity in quantitative assessments. At first glance, one might conclude that the objective measures of youths’ non-cognitive learning experiences (self-efficacy, metacognition, self-determined motivation) were either not sensitive enough to pick up on youths’ potential improvement, or that the camp experience did not boost their skills. Because these instruments do have a demonstrated track record in showing growth patterns, the first interpretation is likely not a valid one. Rather, looking at the absolute values of youths’ reports suggests the later interpretation is worth further consideration.

Statistically, the numbers didn’t change from camp start to camp end. Importantly though, this particular group of youth entered camp showing very healthy and positive non-cognitive profiles, on par with college students taking an elective course. As such, youth entered with healthy profiles and, the subset who elected to complete the post-event assessments, left with similarly healthy profiles. The lack of shift could reflect the fact that those youth on the more positive end of the non-cognitive spectrum were the ones who opted to complete the surveys at the end, thereby restricting the range of scores. Or it could be that the camp experience did not boost the youths’ non-cognitive learning experiences, as hoped. On the plus side though, at least with the group who completed the post-event assessments, youths’ non-cognitive profiles did not decrease in quality.

Just because youth entered with healthy non-cognitive profiles does not mean there is no room for growth though, there is. It is possible that a two-day experience is not enough time to effect positive change without additional, deliberate attention paid to youths’ self-monitoring of their own metacognitive experiences. In future camps, greater attention to improving portfolio useability and fidelity of completion at the start, during, and end of camp should serve to boost youths’ non-cognitive profiles. Additional mentor buy-in and monitoring of their own encouragement and reactions to youth should additionally add to youths’ non-cognitive improvement. For example, more direct attention to guiding youth to engage in metacognitive self-monitoring (e.g., “how well does this tactic help me achieve my aim with this task?”, “was this the best choice for that situation?”, “what can I do next time to better reach that aim?”, and “which strategy available to me is the best for this new situation I am entering
Into?“) is recommended. When mentors “think out loud” about their decisions, they model such metacognitive awareness. When mentors then encourage youth to think out loud too, they are actively boosting youths’ metacognitive skill set. Finally, a last set of recommendations regarding data gathering is this: (a) collect pre-camp assessments before youth arrive on site; (b) increase post-camp assessment completion; (c) additionally gather youths’ post-camp assessment scores after a short delay (i.e., to see if further processing time is needed to detect potential shifts). To encourage post-assessment completion perhaps a lottery can be established, where completing the assessment enters the family’s name into a lottery for a small but desirable token of appreciation.

In conclusion, all indices suggest that actualization of the youth game-camp prototype was a success. Youth were asked to comment, as they began their portfolios, on whether any aspect of participating in camp made them nervous. Many said “nothing at all” but some youth did report a concern about the quality of potential social interactions and/or about whether they would understand the lessons. At the end of camp though, of those who completed this aspect of the portfolio, all stated that their initial nervousness was unfounded.

Indeed, youth enjoyed themselves immensely while they set goals and accomplished them. Youth left camp energized and enthusiastic about building on what they had learned at camp. Families expressed significant interest in participating in future camps. In like fashion, mentors enjoyed themselves immensely while they worked with youth to help them accomplish their goals. Mentors too left the camp energized and enthusiastic about opportunities to participate in future camps. Finally, the accumulated evidence collected does indeed suggest that camp goals were met. In future iterations, by following the recommendations here, evaluation data (both quantitative and qualitative) will more clearly reveal answers to the camp personnel’s questions about camp effectiveness. Yet, even in its first iteration, the assessment process makes clear that the camp prototype and yoked assessment model is feasible and functional.