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To: Brian D. Austin, Program Director and Founder, The Animation Project

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Subj: Best Practices Review Memo

The purpose of this memo is to provide information that can serve The Animation Project (TAP) in their wish to create a program that is data-driven and evidence-based. In order to identify practical steps TAP can take to make its program more reliable and effective so that TAP may better realize its outcome objectives, the Vera Institute of Justice (Vera) reviewed literature in the diverse fields in which TAP works, interviewed experts (both academics and practitioners) in the field of creative arts therapies, and reviewed programs identified by experts and the literature as being of recognized high quality.[1] Many identified best practices are already incorporated into TAP's design and work. While this memo highlights some of these areas, it primarily focuses on best practices that have not been incorporated or not fully incorporated within TAP's program design.

The challenges of identifying best practices relevant to TAP are two-fold. First, TAP's program model is novel. Through the group creation of 3D animation by at-risk youth, TAP aims to heighten the work skills of at-risk youth by improving their technical computer skills and their teamwork and communication skills (often referred to as 'soft skills'). At the same time, TAP aims to use the creative process as a forum to process difficult life experiences and engage in therapeutic interventions with these young people. As such, TAP combines vocational and therapeutic goals, using the non-traditional medium of 3D animation. Its goals and methods align with three distinct fields (technology education, interpersonal skills development, and creative arts therapies), but its model of combining these fields is unprecedented. The challenge was to identify best practices in the many fields that TAP draws on while recognizing that no single field can provide comprehensive guidance for TAP in techniques to synthesize these practices. Throughout this memo, we identify areas where certain practices overlap or diverge from the principles that underpin TAP's program model, and identify benefits and drawbacks to incorporating practices that may diverge from TAP's current organizational commitments.

[1] These fields include: art therapy, drama therapy, play therapy, narrative therapy, technology studies, and education (particularly those subsets of the education literature that focus on the use of technology in educational settings and the development of teamwork, flexibility, and other interpersonal skills required in today's workforce).

Second, a number of the fields that TAP draws on (e.g., creative arts therapies, instruction in soft skills) lack a large body of rigorous research or evaluation of different programs and practices. For sections of this review where the critical mass of research does not exist, Vera presents experts' opinions on best practices as well as the theoretical models that underlie these fields' claims to uniqueness and effectiveness. This memo highlights where the gaps in knowledge exist so that best practices based on anecdotal evidence or speculation may be distinguished from evidence-based practices.

Creative Arts and Play Therapies

The term 'creative arts therapy' is generally used to describe a group of therapeutic practices that incorporate arts modalities and creative processes as part of the intervention process. Within this group, the practices of art therapy and drama therapy are of particular relevance to TAP. While art and drama therapy differ in their techniques, they share some theoretical groundings that structure common and/or recommended practices in both fields and that are likewise central to TAP's therapeutic model. Both fields allow clients to access painful experiences, memories, and emotions in a way that is less threatening—and more enjoyable—than traditional "talk therapy." In the process of art-making, "events can be externalized and unseen trauma that 'defies articulation' can be witnessed and viewed… as if from a distance."[2] Likewise, drama therapy constitutes an "exploration of real life via the fictional mode."[3] Therefore, these therapies provide a 'safe space' from which feelings and events are portrayed and analyzed, and their relevance to the client's life need not be openly discussed. In this way, both art and drama therapy allow the client to reflect upon their feelings and experiences while maintaining boundaries. Through the creation of visual or dramatic art, they may also communicate feelings and experiences to a therapist without the struggle and potential embarrassment of describing them in words.

Practice in need of further research: *Degree of therapists' direction of creative subject matter.*

Techniques differ in the degree to which practitioners expressly direct clients to portray personal, charged experiences. On one end of the spectrum, some experts and practitioners recommend a non-directive approach, giving clients freedom to draw or act out their own subject matter, in their own way.[4] At the other end of the spectrum, art and drama therapists advise a directive approach, calling on their clients to use their artwork to process the trauma or negative life incidents most salient in their lives. In one study reviewed, for instance, the therapist asked children to "draw your life in the shadow of your father's addiction to drugs."[5] Others advocate a balanced approach in which the therapist will direct their clients to depict a certain emotional

[2] Gilroy (2006)
[3] Emunah (1994)
[4] e.g. Weller and Buchanan (1988)
[5] Lev-Wiesel, R. and Liraz, R. (2007)

state or their own self-representation, but do not mandate the clients to depict any one specific incident or interpersonal issue.[6] One expert interviewed, Professor Maria Hodemarska of NYU's Drama Therapy program, described this ideological split as a conflict between using "art *as* therapy versus art *in* therapy." There is little consensus within the field and the research on which of these techniques produce the strongest and most meaningful therapeutic results. The following section further explores this subject, focusing on each of the three points along the continuum—non-directive, balanced, and directive—through reviewing interventions that have been systematically evaluated.

Among model or evaluated programs, we found the non-directive approach by the therapist to be the least common. Nevertheless, one randomized control trial of non-directed art therapy with disturbed adolescents showed statistically significant post- intervention improvements in measures of anxiety, depression, rejection, and sense of identity among the treatment group, while no significant differences were found among the control group (which received no therapeutic intervention).[7] Similarly, there is evidence from evaluations of creative arts programs (i.e. school based art programs as distinguished from creative arts therapy) that engaging in art-making is itself correlated with positive personal and social outcomes among youth. Heightened self-efficacy, self-esteem and social skills have been shown to be correlated with young people's engagement with creative arts programs, where (by the nature of the field) youth are not encouraged or required to directly relate their art to personal life experiences.[8]

On the other end of the spectrum are highly directed trauma treatment programs specifically for traumatized populations, such as the Structured Sensory Interventions for Traumatized Children, Adolescents and Parents (SITCAP), developed by the National Institute for Trauma and Loss in Children. SITCAP combines cognitive therapy with art therapy, and is highly structured in terms of the subject matter portrayed, the activities done, and the types of questions that therapists ask clients. Based on research findings in neurobiology, the intervention's designers argue that since trauma is experienced in a sensory manner (as opposed to a cognitive/linguistic manner), sensory methods – particularly art and drawing – are uniquely effective tools for accessing and processing painful information. In this intervention, sessions are structured around themes such as fear, anger, and safety, and clients are asked to draw scenes of the traumatic event and answer detailed questions about how they perceived the event and its aftermath. The intervention's designers argue that this allows the therapist to "witness" the trauma as it was witnessed by the survivor—relieving feelings of isolation—and that recounting details first visually and then linguistically provides the survivor with a sense of "mastery" over the event.[9] In randomized trials, the intervention shows strong results, with the treatment group showing highly significant reductions in symptoms of post-traumatic stress disorder and in rule-

[6] e.g. Emunah (1994)
[7] Tibbetts and Stone (1990), cited in Gilroy (2006)
[8] Rapp-Paglicci, Ersing, and Rowe (2006); Catterall and Peppler (2007).
[9] Steele and Raider (2002)

breaking, aggressive, and externalizing behavior, as well as significant reductions in reported anxiety and anger.[10]

Other programs use a balanced approach that gives clients general guidelines for their subject matter but still allows for creative freedom. One program that showed statistically significant results in the reduction of adolescents' clinical symptoms of post-traumatic stress disorder did not specifically ask participants to depict their traumatic experiences, but rather asked that they compose multiple drawings or collages to make a narrative of their life story. These young people were encouraged but not required to talk about their feelings and memories related to their trauma.[11] This intervention is of particular note for several reasons. First, the finding of statistically significant results in a randomized, controlled study using well-defined and validated measures (symptoms of PTSD) denotes a high degree of confidence in this intervention's clinical efficacy. Second, the participants in this study were receiving treatments as inpatients at a youth facility. Art therapy was only one treatment of many – and statistically significant results were still obtained.

Finally, the methods used in this intervention are highly relevant for TAP because of the intervention's approach of combining art therapy with an emphasis on narrative. Like youth participating in TAP, these young people were directed to tell a story. The results of this intervention as well as evidence from the field of narrative therapy suggest that combining art-making and story-telling may be a powerful therapeutic combination.[12]

While effective approaches differ in the level of structure and the degree to which they ask clients to specifically depict personal (and often painful) subject matter, there is some evidence that a moderate amount of therapist direction (i.e., a "balanced" approach) is preferable to either non-directed techniques or to highly directed detailed instructions. Vera found one study that expressly examined the relationship between the performance of an art therapy group and the amount of direction clients received. Researchers manipulated the amount of verbal directions and materials they gave to the same group of young people in three different projects, and found they achieved most success in terms of the young people's creative expressions when the moderate level of direction and materials were given.[13]

TAP is committed to encouraging young people to come up with their own creative ideas and to building their sense of agency, self-efficacy, and ownership by allowing them to make all the decisions in regard to the direction of their project. This commitment is irreconcilable with a

[10] Raider et al (2008)
[11] Lyshak-Stelzer et al (2007)
[12] For literature examining the therapeutic and health benefits of story-telling and narrative forming, see for example Cohen et al (2009), Petrie, Booth and Pennebaker (1998), Chandler (1999), Pennebaker and Seagal (1999), and Goncalves and Machado (1999). Among other things, this literature suggests that clients benefit from story-telling most when they use a higher number of negative-emotion words and cognitive reflection words. Lev-Wiesel, R. and Liraz, R. (2007) found that asking young people to create a piece of artwork relating to a problem in their lives increased the number of emotional and cognitive words young people used when afterwards talking about that problem.
[13] Carr and Vandiver (2003)

highly structured approach along the lines of SITCAP. However, a moderate degree of direction building on young people's original ideas is reconcilable with TAP's philosophy, and may be advisable given the findings of the above study that suggested that some degree of direction in fact enhances young people's ability for creative expression.

One expert interviewed shared a technique he uses in his drama therapy groups to combine a commitment to young people's control and ownership over the creative work with a moderate degree of therapist direction. First, he asks group members to come up with story ideas (similar to the process through which TAP begins its work). As the ideas accrue, he reflects back to the group the themes that are emerging in their different ideas (e.g., poverty, authority, abandonment). Then, when all members have contributed and there is a critical mass of story ideas, he asks young people which of these themes they'd like to explore, and which story idea they'd like to explore it through.[14]

This technique serves three therapeutic purposes while allowing participants to retain final authority over their work. First, the identification of common themes among diverse story ideas builds a sense of community among group members and relieves a young person's feelings of isolation as they see their own concerns mirrored in other's creative ideas. Second, the selection of a story based on a theme identified across multiple story ideas ensures that the story is an appropriate venue to address issues faced by many members of the group (as opposed to an idiosyncratic concern of one group member). Finally, heightening group members' awareness of the social and interpersonal themes they are addressing in a creative context sets the stage for their ongoing reflection and processing of how their fictional creative work is similar to or different from their current reality. In Vera's interviews and review of well-regarded programs, this technique or similar variations were seen in many successful creative arts therapy and therapeutic theater programs, including Creative Alternatives of New York (CANY), EnAct, and the Center for Family Life's Life Lines program.[15]

Best Practice Recommendation #1: *Review consistent decision-making model such the Play Therapy Dimensions Model to guide responses to young people's cues for discussion and directiveness.*

While the literature remarks that it is difficult to find the balance between taking on difficult subjects and allowing clients to maintain emotional distance from the subject matter, the literature consistently states that best practice relies on keeping careful track of and responding to the young person's cues. This relies primarily on the sensitivity of the therapist, but other systematic methods may aid the therapist, as well as staff members not trained in therapy, to be appropriately responsive. One such method found in the field of play therapy provides further insight on achieving this balance.

[14] Interview with Jason Butler, June 30, 2009

[15] Interview with Maria Hodemarska, June 26, 2009; interview with Lucy McClellan July 2, 2009; and Creative Alternatives of New York website.

Experts in the field of play therapy created the Play Therapy Dimensions Model (PTDM) to guide therapist decision-making in responding to children and adolescents' subtle cues. PTDM is designed to take into account varying theoretical orientations which place varying levels of emphasis on young people's free expression and the desire to discuss personal and problematic issues, or traumatic experiences.[16] Reviewing this model in planning and supervision sessions may be helpful for staff, particularly those without formal therapy training, in understanding when it is or is not appropriate to move from a freer, more 'playful' approach to one that directs young people to explore their strengths and the challenges they face. Additionally, as therapists' actions are directly related to young people's cues, PTDM is also consistent with TAP's commitment to empowering young people and to the art therapist's relational style of therapy.

Briefly, the model provides a conceptualization of play therapy along varying degrees of consciousness and directiveness.[17] In this context, consciousness is the degree to which the adolescent is consciously aware of the dynamics and personal relevance of events and metaphors existing within their imaginative play. In highly conscious play, adolescents discuss their feelings and behaviors as they relate to a given life issue. Conversely, in low consciousness play, adolescents remain within the metaphor of play and do not connect it with their outside life. Directiveness, on the other hand, relates primarily to the way that the therapist involves themselves in the child's play. In low directive play, the therapist is little more than an observer, taking only the young person's explicit direction for intervention. In high directive play, the therapist is equally active with the young person in determining the storyline and the actions of the play.

Although PTDM emphasizes that therapists can operate on any point along these two dimensions, four main therapy styles emerge from the interaction between consciousness and directiveness.

1. Open Discussion and Exploration: Child and therapist openly discuss issues in child's life. Useful for conscious processing when child has signaled they are ready.
2. Co-Facilitation: Therapist enters and elaborates play with new actions and events, while offering "soft interpretations." Useful when child has not dealt on a symbolic level with salient issues or emotions.
3. Non-Intrusive Responding: Child leads play and both child and therapist stay "in the metaphor of the play." Therapist does not interpret or bring up issues. Useful when distance from trauma is needed.
4. Active Utilization: Therapist offers occasional interpretations of play's metaphors. Useful to gauge child's desire to speak of issues.

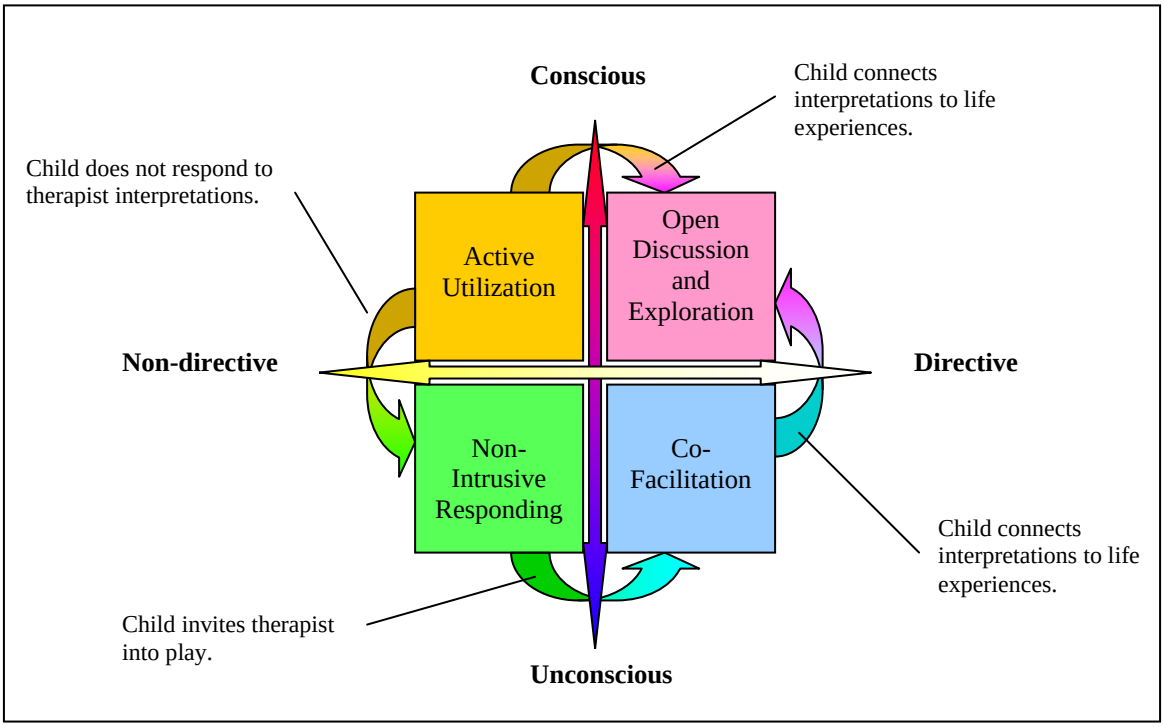
Key areas of movement between the different dimensions, responsive to the client's cues, are represented by arrows below (see Figure 1).

[16] Gardner and Yasenik (2008)
[17] Play Therapy International (2008)

The authors of the model emphasize that therapists may work in only one, or in all, of the dimensions, but encourage therapists to consider working in different dimensions if a client is not responding to their traditional approach or if cues suggest that the child needs a change in approach.[18]

This model has been adopted by Play Therapy International as the "standard for good quality play therapy practice and supervision."[19] The model may provide useful guidelines for TAP staff who are not trained in therapy and, consequently, may not have the intuitive understanding of when different relational styles are appropriate that trained therapists possess. In addition, use of a systematic and recognized model such as this can be appealing to both funders and community partners.

Figure 1: Play Therapy Dimensions Model[20]



Best Practice Recommendation #2: *Process and analyze each group session.*

Across creative arts therapies and more traditional 'talk therapy,' research has shown that irrespective of the diverse techniques therapists use, "the quality of the therapeutic alliance is the single best predictor of good outcome for treatment."[21] While there is no step-by-step guide for

[18] Gardner and Yasenik (2008)
[19] Play Therapy International (2008)
[20] Adapted from Play Therapy International (2008) and Gardner and Yasenik (2008)
[21] Holmes (2000)

how to form trusting relationships with young people, current best practice highlights the need for constant self-assessment so that therapists identify the issues they bring to the table and how that relates to the needs of the young people and the community.

The Association for Specialists in Group Work released Best Practice Guidelines in 1998 and revised them in 2007. Among other areas, these guidelines identify specific areas where self-assessment can help the therapist form healthy relationships with group members. Therapists working in group settings "are aware of and monitor their strengths and weaknesses and the effects these have on group members."[22] This includes their own personal beliefs, their professional theoretical orientation, their skills and deficiencies as a group leader, and their cultural identities. The guidelines also recommend that group workers assess the mission and the needs of the community and the organizations in which they work. In the field of drama therapy, experts recommend that this self-assessment take the form of process notes composed directly after a group session. This form of self-assessment allows the therapist to review decision-making points, and identify what the therapist did that worked, what didn't work, and why. By processing these decision-making moments, which are unpredictable in time and content, the therapist is better prepared to spontaneously make better decisions in the future.[23] Additionally, experts recommend that the interpersonal dynamics between co-facilitators be discussed and processed during these sessions to ensure that co-facilitators are modeling positive social interactions and effective communication.[24]

TAP currently utilizes time during supervision sessions to process events occurring in group sessions and analyze the overall functioning of the group and group members. This process has benefited TAP, and could be further enhanced by incorporating self-assessment that occurs immediately after every group session while events are still fresh in staff's minds. TAP staff currently engage in informal debriefing, but going through this process in a more structured way and specifically identifying decision-making points as well as successful and less successful techniques could enhance the decision-making points that occur in group sessions, and could be particularly helpful to staff members not formally trained in therapeutic techniques.

Best Practice Recommendation #3: *For groups of shorter duration, examine boundaries between staff and clients.*

While establishing a positive therapist-client relationship is of the utmost importance, research also suggests that there may be risks to establishing close, trusting relationships with youth. Particularly, research on the outcomes of youth involved in mentoring programs suggests that when adults form a bond with a young person, the longevity of the relationship is of the

[22] Association for Specialists in Group Work (1998)
[23] Emunah (1994)
[24] Interview with Maria Hodemarska, June 26, 2009; interview with Jason Butler, June 30, 2009; interview with Lucy McClellan July 2, 2009

utmost importance in determining whether that relationship will contribute to positive or negative results for the young person.

Research on adolescent mentoring shows that young people who had a relationship with a mentor for over a year show improvements in academic and socio-psychological outcomes compared to non-mentored youth, and that improvements are more modest if the relationship lasts between six months and a year.[25] Some studies have found that relationships that last between three and six months have small positive results. Others have found that such relationships can predict negative outcomes such as increased delinquency.[26] Relationships that last shorter than three months predict an increase in negative outcomes compared to non-mentored youth on a range of academic, behavioral, and social measures.[27]

The line that distinguishes between a therapist and a mentor is not always clear. The research suggests, however, that care should be taken in short-term therapeutic relationships to maintain the relationship as a therapeutic relationship and *not* as a mentoring relationship. This involves striking a hard balance between remaining responsive to young people and their desire to share their everyday experiences, and becoming a mentor and friend to a young person, when staff may not have the time and resources to continue in that role once the group is over. In supervision sessions, staff may wish to discuss when the line between friend and therapist has become too blurred and devise sensitive, personalized strategies for establishing boundaries and returning the relationship to a more formal therapeutic one.

Technology in Education and Therapy

The use of computers and technology as therapeutic tools has attracted the attention of therapists, educators, and social scientists. Similar to the ideological divide between using "art *in* therapy versus art *as* therapy," computers have been seen by some therapists as tools to accessing the inner life of their clients. Like the use of the artwork in art therapy, computers can serve as a 'third party object' which clients can use to contain their issues in a safe space, and yet still share them with the therapist.[28] Others advocate that the process of using a computer can itself achieve positive therapeutic effects, particularly in the spheres of self-efficacy and self-regulation, as skills are acquired and practiced. This second view is compatible with the views of experts in the field of education, who see computers' pedagogical potential in "not the sophistication of the technologies, but the ways in which their capabilities aid and motivate users."[29]

Research and theory on the use of technology in educational settings suggests that computers can be an empowering learning tool. Computers can facilitate communication and information-

[25] Rhodes (2001)
[26] Ahrens el at (2008)
[27] Grossman and Rhodes (2002); Rhodes (2001)
[28] Zelnick (2005)
[29] Volkov and King (2003), citing Dede (2002)

gathering in self-directed ways. At the same time as young people learn technological skills, they are learning to self-regulate their behavior, a skill valuable in life and in the workplace.[30] And as they learn skills and master a new technology, their feelings of self-efficacy grow -- particularly in regards to technology and self-regulation, the latter having been shown to translate into improvements in other spheres of self-efficacy and positive outcomes in academic settings and in communication skills.[31] In other words, simply using a computer to "create" is a process that can produce many intra- and interpersonal therapeutic effects. As psychologist Albert Bandura points out, however, self- efficacy can be built on through computers but is not automatic. Rather, it is regulated by learners' beliefs in their ability to overcome obstacles and in the social supports they are given in acquiring skills.[32]

Bandura identifies four main factors that contribute to increased self-efficacy: mastery experiences, vicarious experiences, social persuasions, and physiological states. Of these, mastery experiences have been found to be the strongest determinant of increased self-efficacy.[33] In other words, the literature suggests that self-efficacy beliefs, which affect motivation and therefore success in future behavior, are largely determined by the extent to which one has succeeded or failed in achieving goals in the past. While belief about whether the experience has been positive or negative may be malleable, failure to achieve a goal in general reduces self-efficacy, while achieving the goal heightens it.[34] Moreover, multiple mastery experiences create more stable self-efficacy beliefs that are resistant to diminishment by a single failure experience.[35]

In order to positively affect self-regulation, young people must take responsibility for completing tasks on time, without constant oversight. But to create positive effects on young people's overall self-efficacy, young people must achieve their goals – in this case, the completion of the animation short—before the end of the program, and so staff should ensure that this occurs. This requires navigating a tension between ensuring completion of a task while refraining from directly regulating workflow. This suggests that staff should identify strategies that create structure in the task to ensure its completion but do not diminish the young person's ultimate responsibility to regulate their own work.

Best Practice Recommendation #4: *Reinforce realistic tasks to ensure that youth complete animation short by end of session.*

Best Practice Recommendation #5: *Set limit on project length (running time) in proportion to length of hands-on work time.*

[30] Bandura (2002)
[31] Badura et al (2003)
[32] Bandura (2002)
[33] Bandura (1986), Bandura (1997), Hutchison et al (2006)
[34] ibid.
[35] Bandura (1986)

Researchers and educators in one program that attempted to use 3D animation to bolster the computer skills of underprivileged youth found that "invariably, [students] chose projects that were both too long and complex to be carried out effectively in the time-frame of the workshop or lost a great deal of time selecting characters and coming up with an idea for an animation."[36] As a result, dropout was high, and none of the students finished an animation. The authors of the program's evaluation concluded that a key to success with teaching animation is that "[t]he nature and size of the task should meet the affordances of the tool."[37]

The above experience points to four specific strategies that program staff may use to ensure that a young person achieves their goal of creating a complete animation short. First, 'the tool' itself (in this case the animation software) may be changed to facilitate quicker production. Second, the task may be defined so that they are achievable within the given timeframe, either in terms of its content or its length. Third, tasks may remain open, but program staff may reinforce those tasks which are realistic and discourage those which are not. Fourth, program staff may set sub-goals and timelines to ensure that the amount of time spent on any given sub-task does not exceed an appropriate allotment and hence infringe on the achievement of the larger goal.

As the software program used by TAP has been selected specifically to increase youth's self-efficacy by their mastery of a sophisticated program used by professional animators, the first strategy is incompatible with the commitment of TAP.[38] Likewise, staff determining the content of young people's creation would undermine The Animation Project's attempts to create a sense of ownership over their work. However, reinforcement of realistic goals maintains this sense of ownership at the same time as it facilitates young people's successful self-regulation and task completion. Setting length restrictions on youth projects likewise does not appear to undermine ownership and is a strategy employed by many of the programs reviewed that seek to build youth technological skills through project-based learning. For example, the 3D animation group discussed above ultimately decided to limit project lengths to 1 minute long with about six hours of hands-on time by students.[39] A group that taught video production skills limited youth video creations to three minutes of film with five days total production time.[40]

Best Practice Recommendation #6: *Create with youth specific and tangible objectives to be achieved for every session.*

The creation of shorter-term objectives in collaboration with youth is likely to facilitate the ultimate completion of the animation project. In addition, research suggests that students and workers both judge their progress more accurately and obtain greater increases in self-efficacy

[36] Zagal, Piper, and Bruckman (2006)
[37] ibid.
[38] Interviews with Tim Fielder, July 14, 2009, and Brian Austin, July 3, 2009
[39] Zagal, Piper, and Bruckman (2006)
[40] Niestyo, Buckingham, and Fisherkeller (2003)

beliefs when goals are identified and when they are attached to specific and measurable outcomes.[41] Achieving markers of progress is also likely to enhance task performance.[42]

Finally, achievement of intermediate objectives can serve as a protective factor, ensuring some sense of achievement, in the event that a group or an individual does not finish their project or does not achieve an overarching goal.[43] Although retention of all group members is desirable, experts interviewed for this project emphasized that therapists working in group settings must accept that it is always likely that some clients will drop out, and that this is particularly true of youth. Creating group sessions that are in some ways self-contained is thus advisable, so that even members who drop out experience some level of success.[44]

Best Practice Recommendation #7: *As far as possible, model skills by actors similar to client population.*

Research on learners' confidence with technological tools has shown that the effects of goal-creation on learners' self-efficacy for a given task are enhanced if 'vicarious experience' is also created for learners through having someone model the skill for them.[45] Vicarious learning has been shown to be more effective in raising self-efficacy when the person who models the behavior is similar to the learners on dimensions of gender, race, age, and status, and this level of similarity "can have profound effects in situations where individuals have experienced difficulties and hold doubts about performing well."[46]

The education literature also suggests that students are more likely to continue using computers and technology 'on their own time' when those technological skills have been taught to them using a constructivist, project-based learning method than a lecture- and accountability-based method.[47] This is the approach presently employed by TAP.

Interpersonal Skills and Process Knowledge Development

Employers and businesses have increasingly called on academic institutions to better prepare graduates in social and interpersonal competencies such as communication skills, perspective-taking, and collaboration skills.[48] For example, in addition to traditional academic skills, included in the twelve core competencies identified by Mayoral Task Force on Career and Technical Education Innovation are the following: "communicate effectively," "work effectively

[41] Wang, Ertmer, and Newby (2004), citing Schunk (1990) and Lee, Locke & Latham (1989)
[42] Bandura (1986) citing Agras, Leitenberg and Barlow (1968) and Lietenberg et al (1968).
[43] Ibid.
[44] Interview with Maria Hodemarska, June 26, 2009; interview with Jason Butler, June 30, 2009
[45] Wang, Ertmer, and Newby (2004); Bandura (1986)
[46] Schunk and Zimmerman (1997)
[47] Becker (2000)
[48] Griffith (1999)

on teams with a collaborative attitude," and "demonstrate leadership skills."[49] These and other skills related to a person's ability to function as a member of a professional team are sometimes called process knowledge or more informally 'soft skills.'

While the education literature has begun to investigate approaches to building group work skills, interpersonal skills and other components of emotional intelligence are not well-defined and are notoriously hard to measure in a rigorous way.[50] Although experts in education have advocated that "group-based project work" fosters the development of teamwork and communication skills relevant to today's workforce, little research points to specific approaches that can be taken to maximize these gains in social learning.[51] As a result, most of the research in this area so far is exploratory, and based on theory rather than evidence, or on anecdotal, experience-driven knowledge. This section of the memo will present promising practices recommended by education theorists and management consultants who have attained prominence in the field. Unless otherwise explicitly mentioned, these best practice recommendations are *not* supported by rigorous evidence-based research.

Some of the only evidence-based practice Vera was able to find in this field recommended a model of communication and leadership skills development already practiced by TAP—the model of teaching these skills, not as a separate, independent class (e.g., "Foundations of Rhetoric" or a similar communications class), but as part of instruction in more traditional skills.[52]

Promising model: *Ask group members to write a statement evaluating the group's functioning and their success in the project.*

One study surveyed educators and business professionals, asking them to rank the interpersonal skills they desired in their students and workforce. Skills ranked included written communication, reading comprehension, work ethic, open-mindedness, honesty, problem-solving skills, and ability to follow direction. Written communication was rated as most desirable by educators and business professionals. Recommendations for technology educators specifically for integrating 'soft skills' instruction (not based on evidence) encouraged educators to require the following of their students: "1) work in teams, 2) organize their thoughts, 3) communicate with team members, 4) solve a problem, 5) present their findings orally, and 6) evaluate their success through a written document."[53]

As this study found that written communication was one of the most highly-rated among desired team skills, TAP may wish to incorporate this last recommendation into their

[49] Mayoral Task Force on Career and Technical Education Innovation (2008)
[50] See, for example, Locke (2005) and Landy (2005).
[51] McLoughlin and Luca (2002) citing Collis (1998) and Klemm and Snell (1996), among others.
[52] Tuleja and Greenhalgh (2008)
[53] Harris and Rogers (2008)

programming. On the other hand, it could be argued that a single written assignment is likely to only minimally enhance written communication skills.

Promising model: *Rotate facilitator position among group members.*

In one model that aimed to teach process learning, group roles of 'forum leader,' 'questioner,' and 'summarizer of information' were rotated on a weekly basis, so that all group members gained experience with the multiple roles within a work team. Furthermore, different techniques for effective communication are practiced in each of these roles (e.g., summarizing another's viewpoint before making your own vs. critical thinking and inquiry).[54] The management literature further highlights the role of facilitators in groups as a delicate position which affects all group members' participation. One management expert writes that while having a single facilitator expedites group activity, "the existence of a single facilitator may prevent the group from assuming collective responsibility for the group process. The aim of any group should be that facilitation is performed by every member equally and constantly."[55] While rotating all the roles of the work teams might limit the participation of some (e.g., those in the role of 'summarizer of information'), rotating the role of the facilitator among group members may simultaneously achieve greater group ownership at the same time as it achieves some of the goals of the model presented above to teach multiple levels and types of teamwork skills.

Promising model: *When focusing on communication skills, ask group members to outline the steps involved in a particular communication skill.*

One model developed by technology educators creates a four-step method for teaching communication skills or principles. The steps are as follows: 1) modeling the skill, 2) asking the learners to "develop a mental checklist of the key behaviors" involved in that skill based on the model, 3) presenting examples of the skill to learners, and 4) having learners practice the skill in an environment where they will receive realistic feedback.[56] The authors of this model provide the example of active listening, which involves the behaviors of "paraphrasing, acknowledgment, and understanding how something was said in addition to what was said." Steps 1, 3, and 4 are integrated into TAP's group-work method. TAP may wish to incorporate step 2 of this method. Outlining the component parts of skills that often seem intangible may be helpful to youth in developing these work-relevant skills. On the other hand, it could be challenging to incorporate this task in a way that does not appear unnatural or disrupt the work-flow.

[54] McLoughlin and Luca (2002)
[55] Blair (1991)
[56] Kapp and Hamilton (2006)

Summary

Many of the fields that TAP draws on are still in infancy, lacking a strong body of empirical research and evaluation. Two areas in need of further evaluation are the efficacy of therapists' direction of creative subject matter as well as effective approaches in building soft-skills, such as working well in groups and interpersonal skills. However, there is a certain level of agreement as to emerging best practices and promising models. Listed below is a brief summary of best practice recommendations and emerging models, as well as areas in need of further research:

Best Practice Recommendations

1. *Review consistent decision-making model such the Play Therapy Dimensions Model to guide responses to young people's cues for discussion and directiveness.*
2. *Process and analyze each group session.*
3. *For groups of shorter duration, examine boundaries between staff and clients.*
4. *Reinforce realistic tasks to ensure that youth complete animation short by end of session.*
5. *Set limit on project length (running time) in proportion to length of hands-on work time.*
6. *Create with youth specific and ideally tangible goals to be achieved for every session.*
7. *As far as possible, model skills by actors similar to client population.*

Promising Models

- *Ask group members to write a statement evaluating the group's functioning and their success in the project.*
- *Rotate the facilitator position among group members.*
- *When focusing on communication skills, ask group members to outline the steps involved in a particular communication skill.*

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