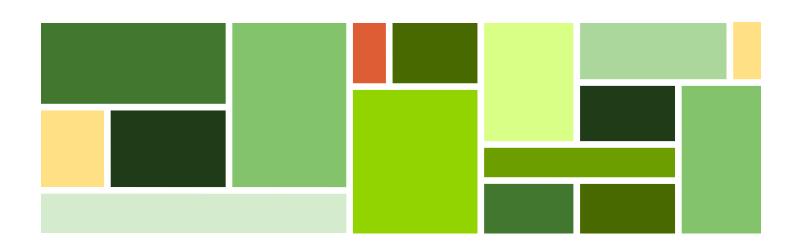# Knowledge Gains from Professional Development Training:

Report on the Palm Beach County
Afterschool Educator Certificate Pilot

Tom Akiva and Gina McGovern
David P. Weikart Center for Youth Program Quality

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Acknowledgements

Introduction

This report provides findings from the first year of the Palm Beach County Afterschool Educator Certificate (PBC-AEC) pilot. The PBC-AEC pilot consisted of four cohorts of students who attended multiple weeks of training. This report examines only cohorts two, three, and four, as assessments were not collected for the first cohort. These cohorts were staggered by a few weeks, but all courses were completed by the end of May 2010. The first cohort was nine weeks (66 hours), and the second, third, and fourth were 11 weeks (80 hours). The PBC-AEC training includes nine modules, including content from two existing training series—Bringing Yourself to Work (Seligson & Stahl, 2003) and the HighScope Active Participatory Approach (see *cypq.org*), elements of Advancing Youth Development (see *nti.aed.org*), and material Prime Time designed specifically for Palm Beach County. The content of these modules is described in Table 1.

Table 1. Components of the PBC-AEC

Training component	Description
1. Bringing Yourself to Work	Designed to provide afterschool practitioners with the tools to improve the social and emotional environments of their afterschool programs and to improve relationships with co-workers.
2. Youth Work Methods I	In the Youth Work Methods series, afterschool practitioners learn a variety of techniques and skills that are instrumental in providing an environment that is safe, supportive, interactive and engaging. Part I includes: → **Building Community** - This lively workshop introduces participants to numerous community-building and relationship-building activities. → **Structure and Clear Limits** - How do you prevent chaos in a youth environment without stifling youth's positive energy? This workshop introduces methods for setting clear limits and a productive program structure. → **Scaffolding for Success** - How do you set the bar high for youth and help them exceed their expectations? This workshop is about working closely with youth to find their learning edge and helping them experience just the right amount of challenge.
3. Youth Work Methods II	Part II includes: → **Active Learning** - Introduces the remarkable benefits of providing opportunities for youth to actively explore materials and ideas. The workshop introduces the "ingredients" of active learning as well as methods for creating high-impact, active environments. → **Reframing Conflict** - Helps participants consider an approach in which adults support youth in solving their conflicts and problems. → **Ask-Listen-Encourage** - Introduces a method for building supportive, youth-centered relationships. The workshop prepares participants to ask lots of effective questions, to listen actively to youth, and to encourage youth by tapping into their intrinsic motivation.
4. Youth Work Methods III	Part III includes: → **Voice and Choice** - Providing young people with authentic, meaningful choices is a hallmark of truly engaging environments. This workshop is focused on providing meaningful choice within activities and voice within the youth program itself. → **Planning and Reflection** - The planning and reflection process, central to the High/Scope approach for every age, can turn a fun activity into a powerful learning experience! Participants learn how to support youth in planning, implementing, and evaluating activities and projects. → **Cooperative Learning** - This workshop addresses youth's interaction in groups—both the cooperative learning environment and leadership opportunities.
5. Academics in Afterschool	Afterschool practitioners learn how to promote enthusiasm for learning by presenting youth with fun and innovative ways to enhance academic skills in the areas of literacy, math and science within an afterschool program.

6. Play & Inclusion	Afterschool practitioners learn strategies of play that encourage positive self-expression and creativity, and how to foster an environment that is built on a foundation of empathy for others. Practitioners also learn some basic tools to be used for inclusion in afterschool.
7. Family Engagement	Over the past few years, afterschool programs have been searching for ways to most effectively engage parents and families in their child's afterschool program. This training addresses the questions that have arisen about how to best define family engagement. Afterschool practitioners explore the idea of customizing the approach to improve family involvement in afterschool so that the needs of the families served are met effectively.
8. Youth Leadership	Designed to give afterschool practitioners the information they need to effectively engage young people into peer staff positions, leadership roles and partnerships at their programs. Practitioners also learn how to develop and/or strengthen youth leadership skills and governance by creating Youth Advisory Councils.
9. Core competencies	Studies show that a well-trained, consistent and well-compensated workforce is essential to providing top quality afterschool programming. Afterschool practitioners learn about the professional development system that has been created in Palm Beach County, which includes credit and non-credit pathways, core competencies, and scholarship program. Practitioners also learn how all the pieces of this system fit together as well as how to use the pieces to achieve greatness in the afterschool field.

In order to evaluate the effectiveness of professional development training, a multilevel framework is necessary. Specifically, the five-level model of Guskey (2000) suggests that professional development evaluations should address: (1) participants'' reactions; (2) participants' learning; (3) organization support and change; (4) participants' use of knowledge and skills; and (5) student learning outcomes. In prior research conducted by the HighScope Educational Research Foundation, the HighScope Active Participatory Approach; that is, the content of the Youth Work Methods, was assessed on a similar, four-level, framework (Bouffard, 2004) and found to produce gains in all areas (Smith, 2005). This approach was developed over forty years at the HighScope Institute for IDEAS, and this program for high school age youth was shown to increase postsecondary outcomes (Ilfeld, 1996).

Beginning with level 1 of the framework, the PBC-AEC training has been very well received by participants, reflected in their high ratings on end-of-session evaluations—which have been presented elsewhere (Baker, Lockaby, Daley, & Klumpner, in press). The present report focuses on level 2, participants' learning. If the PBC-AEC training is effective, we would expect participants to gain knowledge in the areas addressed in training.

Summary of Research Design & Measures

Data for this report includes ninety participants from three cohorts of PBC-AEC training, which operated in the spring of 2010. All cohorts included participants from organizations that primarily serve elementary students, and in nearly every case multiple participants from each organization participated together. Cohort two included 29 participants from four programs (3 school district, 1 community-based). Cohort three included 31 participants from six programs (4 school district, 1 community-based, 1 government). Cohort four included 30 participants from six programs (all school district).

Measures consisted of nine exams, each of which contained 6-14 test items, including multiple choice, short answer, matching, and practical items in which participants read a description of a youth work scenario and answered related questions. Exam items for Youth Work Methods were created by Gina McGovern of the Weikart Center, and other items were created by staff of Prime Time PBC, Inc. Course instructors scored each

item as correct or incorrect, based on an answer key provided. In addition, several of the exams also included retrospective items in which participants self-rated their knowledge prior to and after the training.

In order to limit test fatigue and reduce the overall number of exams PBC-AEC participants were asked to complete, not all participants completed all pre and all post measures. Specifically, cohorts three and four completed both pre and post exams for Bringing Yourself to Work and the Youth Work Methods courses, but other completions were staggered as described in Table 2.

Table 2. Measure Completion by Cohort

Component	Cohort 2		Cohort 3		Cohort 4	
1. Bringing Yourself to Work	-	Post	Pre	Post	Pre	Post
2. Youth Work Methods I	-	Post	Pre	Post	Pre	Post
3. Youth Work Methods II	-	Post	Pre	Post	Pre	Post
4. Youth Work Methods III	-	Post	Pre	Post	Pre	Post
5. Academics in Afterschool	-	Post	Pre	Post	-	-
6. Play & Inclusion	Pre	-	-	Post	-	Post
7. Family Engagement	-	Post	-	Post	Pre	Post
8. Youth Leadership	-	Post	-	Post	Pre	
9. Core Competencies	-	Post	-	Post	Pre	Post

Knowledge Gain Summary

To assess knowledge gain, change scores were calculated, but only in cases where individual linked scores existed for both pre- and post-exams. Participants showed statistically significant knowledge gains in five of the seven exams for which pre and post information for individual cases is available. The remaining two cases showed positive but non-significant improvements[1]. Note that for two of the exams—Play & Inclusion, and Engaging Youth as Resources—the participants who completed the pre assessments are not the same as the participants who completed the post assessments, so while average percentages correct increased from before to after the training, we are not able to determine the statistical significance of this gain.

Table 3, on the following page, provides a summary of this information. In the cases for which there is pre and post information for individual cases, participants scored on average between 51% and 67% correct before the training. Many of these are multiple choice items with four possible answers, which would produce a 25% score if a participant was purely guessing randomly. So we can assume, by these rates, that the tests are challenging, but not impossible. Post-training scores range from the high 60s to the high 80s, again within the range we are looking for.

Item-level analyses for each of the nine exams have already been used to guide revision of the exams. For example, in cases where pre-training scores were above 90%, these questions are too easy to give us useful information about knowledge gains.

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[1] As we applied t-tests seven times, the Bonferoni correction is to divide the conventional p-value threshold of .05 by 7, yielding an adjusted threshold of .007

Table 3. Summary of Pre to Post Knowledge Gains

Topic	Points possible	N	Average percent correct before training	Average percent correct after training	Comparison
*Bringing Yourself to Work	8	52	59	87	t=7.95; p=.000*
*Youth Work Methods I	11	41	62	86	t=8.55; p=.000*
*Youth Work Methods II	14	46	52	67	t=7.29; p=.000*
Youth Work Methods III	13	45	61	75	t=4.50; p=.000*
Academics in Afterschool	12	27	66	80	t=4.05; p=.000*
Play & Inclusion	8	26/59	67	87	n/a[a]
Family Engagement	6	27	61	78	t=2.31; p=.029
Youth Leadership	9	9/55	51	68	n/a[a]
Core Competencies	7	14	53	66	t=2.48; p=.028

[a] Statistical comparison is not appropriate for these exams, as different people completed the pre and post tests.
* Significance at the 95% confidence level, adjusted for multiple tests.

Retrospective Summary

Initially, we worried that it was possible that the pre-tests would contain language that was field specific and that the pre-post would simply be measuring an increase in vocabulary understanding. So to collect information about participants' knowledge gain in another way, we asked participants after the training to retrospectively rate their own knowledge before and after.

Data for retrospective items in which participants reported on how they thought their knowledge or practice had changed over the course of the training exist for Bringing Yourself to Work and Youth Work Methods. These results are summarized in Table 4. Without exception, for every item participants rated their post knowledge significantly higher than their pre knowledge.

Table 4. Retrospective knowledge items asked at pre and post
(scale: 1=little or very little knowledge to 5=a great deal of knowledge)

Topic/Item	N	Pre	Post	Change	Sig.
Bringing Yourself to Work					
a. How to work as a team with other staff.	77	4.04	4.61	0.57	***
b. How to add to a more respectful climate at your program.	77	3.88	4.51	0.63	***
c. How staff can form stronger relationships with young people.	76	3.95	4.50	0.55	***
Youth Work Methods I					
d. How to gauge a youth's learning zone.	84	3.04	4.21	1.17	***
e. How to support young people in completing a task successfully.	83	3.53	4.49	0.96	***
f. How to create and maintain limits.	83	3.65	4.46	0.81	***
g. How to determine the psychological needs of youth.	83	3.41	4.37	0.96	***
h. How to foster positive peer relationships.	83	3.49	4.40	0.91	***
i. How to create a strong sense of belonging.	84	3.57	4.49	0.92	***
Youth Work Methods II					
j. How to engage young people in a productive and interesting environment.	78	3.35	4.21	.86	***
k. How to create an active learning environment where young people use their hands, their bodies, and their minds.	79	3.41	4.39	.98	***

l. How to involve youth in reframing conflict.	77	3.27	4.39	1.1	***
m. How to constructively approach a conflict situation.	75	3.41	4.35	.94	***
n. How to ask effective questions.	79	3.28	4.29	1.0	***
o. How to listen and pay attention to the cues youth provide about their thoughts and feelings.	79	3.47	4.41	.94	***
p. How to encourage youth in their efforts.	78	3.46	4.47	1.0	***
Youth Work Methods III					
q. How to engage youth in planning	82	3.07	4.17	1.1	***
r. How to engage youth in reflection	81	3.15	4.31	1.1	***
s. How to create opportunities for youth voice.	81	3.19	4.35	1.1	***
t. How to create opportunities for youth choice.	82	3.30	4.38	1.0	***
u. How to use grouping strategies and group work structures	82	3.24	4.34	1.1	***
v. How cooperative learning meets social and intellectual needs of youth	82	3.24	4.24	1.0	***

*** $p < .001$ (non-adjusted p-values)

Conclusion

The first year of the Palm Beach County Afterschool Educator Certificate Pilot included four cohorts, each consisting of 29-31 youth worker participants. Participants from three of these cohorts completed survey-type assessments prior to and/or after the AEC training. Pre-test scores ranged from 56% and 65% suggesting that the assessments were challenging, but not impossible. Post-test scores ranged from 67% to 93%, and in every case, post-test scores were higher than pre-test scores. These knowledge gains were statistically significant in all but two areas assessed, both of which contained smaller sample sizes (due to the way assessments were spread out across cohorts). After the training, participants were asked to retrospectively report on their knowledge in several areas before and after the training. Every individual retrospective item showed higher post- than pre- scores and these were significant in nearly all cases. It is therefore likely that real knowledge gains occurred in all areas of the AEC. It appears that year one of the AEC pilot successfully increased youth worker knowledge.

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