

Assessing the Immediate and Long-Term Effectiveness of Intensive Training Programs for Educational Professionals in the U.S. Virgin Islands

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Abstract

VIUCEDD has been engaged in ongoing training of parents, educational practitioners and allied health professionals on topics related to disability studies, applied behavior analysis, speech and language methodologies and overall effective teaching practices. In order to better understand the outcomes training attendees receive beyond NIRS satisfaction surveys, we sought to quantify the degree to which content knowledge was acquired and retained among participants. We also sought to analyze participants attitudes about the content knowledge received during training in a 1 and 3 month follow up. The mean difference between pre and post test assessments indicated a net knowledge gain in from pre to post test administrations for all respondents. The difference was not statistically significant. Preliminary analysis of the technical assistance instrument indicates a high level of satisfaction with the training across various domains related to individual and organizational benefit.

Introduction

A key aspect of the work of the Association for University Centers on Disability (AUCD) is the provision of technical assistance. AUCD's technical assistance to VIUCEDD enables our organization to provide technical assistance to members of U.S. Virgin Islands community. The delivery of excellent technical assistance helps to advance the mission of AUCD which is "to advance policies and practices that improve the health, education, social, and economic well-being of all people with developmental and other disabilities, their families, and their communities by supporting our members in research, education, health, and service activities that achieve our vision."

In fiscal year 2015, VIUCEDD provided technical assistance to approximately 1945 individuals within the U.S. Virgin Islands community and provided over 450 hours of technical assistance support to our colleagues and community partners. While satisfaction data is gleaned from virtually all of our UCEDD's activities as part of compliance with federal regulations and for VIUCEDD's own internal analysis of our service delivery, we wanted to further examine the impact of our technical assistance work in terms of perceived helpfulness and in the initial acquisition and retention of content knowledge.

The data presented here represent one data set related to pre and post test assessments on a topic related to classroom and psychological assessment. There is also data presented that relates to an initial outcome measure related to an in depth technical assistance survey. These data were gleaned from educational support professionals in the St. Croix Department of Special Services District in the U.S. Virgin Islands.

Materials & Methods

Methods

This research was conducted using a mixed methods model to analyze the data both quantitatively and qualitatively.

The pre/post test assessment was a 10-item instrument that included 9-multiple choice questions and one open ended question. The open ended question was not tallied in the data set.

The Likert scale inventory related to the helpfulness of the Technical Assistance (TA) was created and adapted from a survey instrument from The National Evaluation of the Comprehensive Technical Assistance Centers. The response "to a moderate degree" was purposefully omitted at the suggestion of a statistician in order to encourage a more thoughtful and meaningful choice regarding helpfulness of the training. Two questions which did not initially appear in the scale were added as controls to ensure participants were reading each statement carefully.

The pre-test was administered at the beginning of the training and the post test and TA survey were administered following the training.

The data were transformed from ordinal data into linear, equal interval units using the Rash Rating Scale model.

An ANOVA was conducted using a Z-test to look for a statistically significant difference between pre and post test means.

The TA survey data were analyzed qualitatively.

Participants

The participants for this study were 23 educational professionals that included Psychologists, Behavior Specialist and Resource Teachers associated with the U.S. Virgin Islands Department of Education's Department of Special Services in the St. Croix District.

Discussion

The use of the Likert scale is a common format used by practitioners to evaluate participants perceptions related to the helpfulness of technical assistance delivery. A survey instrument was developed through an adaptation of a scale found in the The National Evaluation of the Comprehensive Technical Assistance Centers. This instrument was designed to gain a more in depth analysis of the dimensions of technical assistance. The TA instrument included 2 questions designed as controls. While most respondents caught the 2 control questions and altered their responses based on the opposite nature of the wording, a few respondents rated the training both as very helpful and of no help at all. The majority of the respondents responded favorably about the training as indicated by high levels of 3's and 4's on the non control questions and high level of 1's and 2's on the control questions.

An additional instrument related to content knowledge was created to assess acquisition and retention of content knowledge related to the training topic. The design of the instrument was such that the ordinal data gleaned from the raw scores were not ready for statistical analysis in their original form. The Rash-Rating scale model was applied to the data to transform them into equal-interval and linear units, thus making the data set more conducive to a range of statistical analyses.

Results

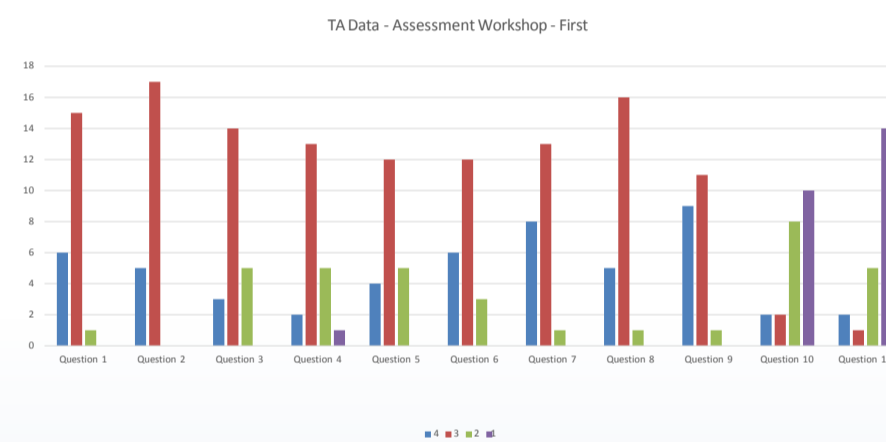
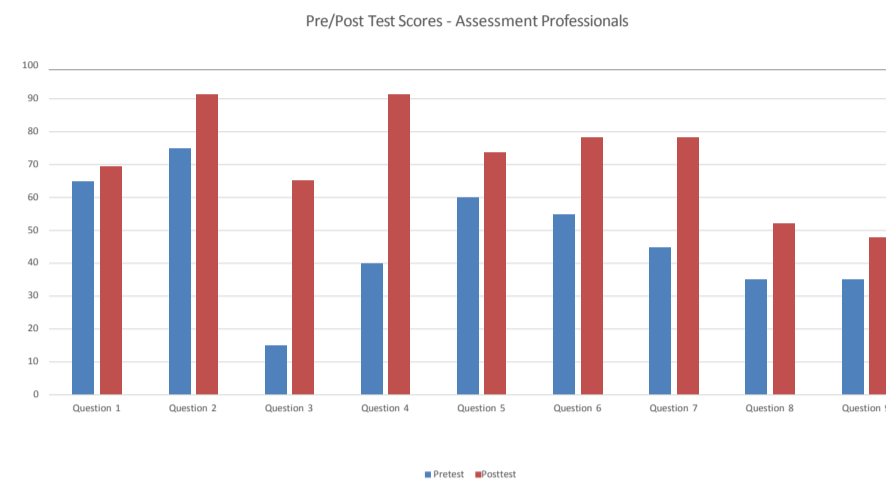
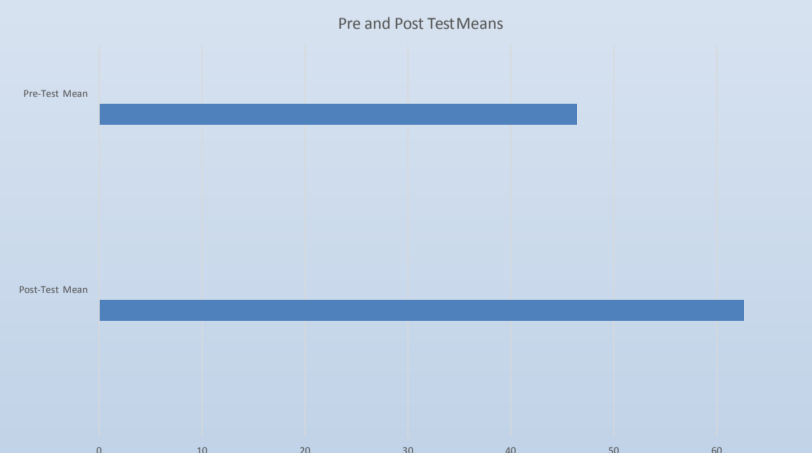


Table 3. Pre-test/Post-test Difference-of-means Test on Assessment

	Mean	Std. Err.
Pre-test:	46.44	10.54
Post-test:	62.64	11.33
Difference of means:	16.2	
z =	1.05	



Conclusion

There was a net gain of knowledge between pre and post test assessments related to content knowledge surrounding classroom and psychological assessment practices.

The pre-test mean was 46.44 and the post-test mean was 62.64. The difference in means was 16.2. While the Z- test did not indicate a statistically significant difference in means, the evidence suggests that for purposes of practicality, the training intervention did have an impact of some magnitude on the post test outcomes.

There was a high level of construct validity in the content knowledge assessment. All of the pre/post content knowledge items except question 2 contained Fit values between 0.70 and 1.30. Fit values within this range are considered acceptable and indicative of an instrument that measured what it claimed to measure.

DIRECTIONS FOR FUTURE RESEARCH:

Future analysis of these data will include a re-administration in 1 and 3 months time, the content assessment as well the TA inventory related to the helpfulness of the intervention.

Future iterations of VIUCEDD's work to better understand and quantify the dimensions related to the helpfulness of our technical assistance to the community will include a more well constructed pre/post-test assessment in order to increase the reliability of the content assessment. The instrument will have more questions to help decrease the standard error of measurement of each question. We will also seek to have a larger set of respondents.

Limitations

When the content knowledge assessment piece was constructed, the researcher did not have in mind the statistical analysis of the reliability of the instrument. The small number of responses (9) and low level of respondents (23) contributed to a low level of reliability (.71 and .68 respectively) among pre and post test assessments.

The post-test survey was administered with limited time and some of the respondents rated the control questions with the same number as they rated their satisfaction with the training.

Acknowledgements

I wish to formally acknowledge Frank Mills, Ph.D., Vice Provost at the University of the Virgin Islands. Dr. Mills was instrumental in the transformation of these data from ordinal into linear so that a true statistical analysis could take place. His statistical expertise was critical to the quantitative analysis of these data and is instrumental to the future more rigorous implementation of high quality quantitative research and statistical analysis of various phenomenon.

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