

EDUCATION

and training beyond high school



Evaluating GEAR UP Impact Through the Lens of Service Implementation

Dr. Hsiang-Yeh Ho, Edvantia, Inc.

Georgia Hughes-Webb, Edvantia, Inc.

Michelle Johnson, WV HEPC



West Virginia GEAR UP

- WV Higher Education Policy Commission
 - Select Partners: Edvantia, Inc. & Xcalibur
- Six-year state grant
- Will serve more than 13,000 students from 2008-2014
- 10 counties, 14 high schools, more than 5,000 students per year
- 2014 cohort and 11th and 12th graders each year of the grant

West Virginia GEAR UP Service Areas and Schools

2011-12 Academic Year



SOUTHWESTERN REGION - served by Southern West Virginia Community and Technical College

BOONE: Scott High School (class of 2014 only);
Sherman High School

LINCOLN: Lincoln County High School

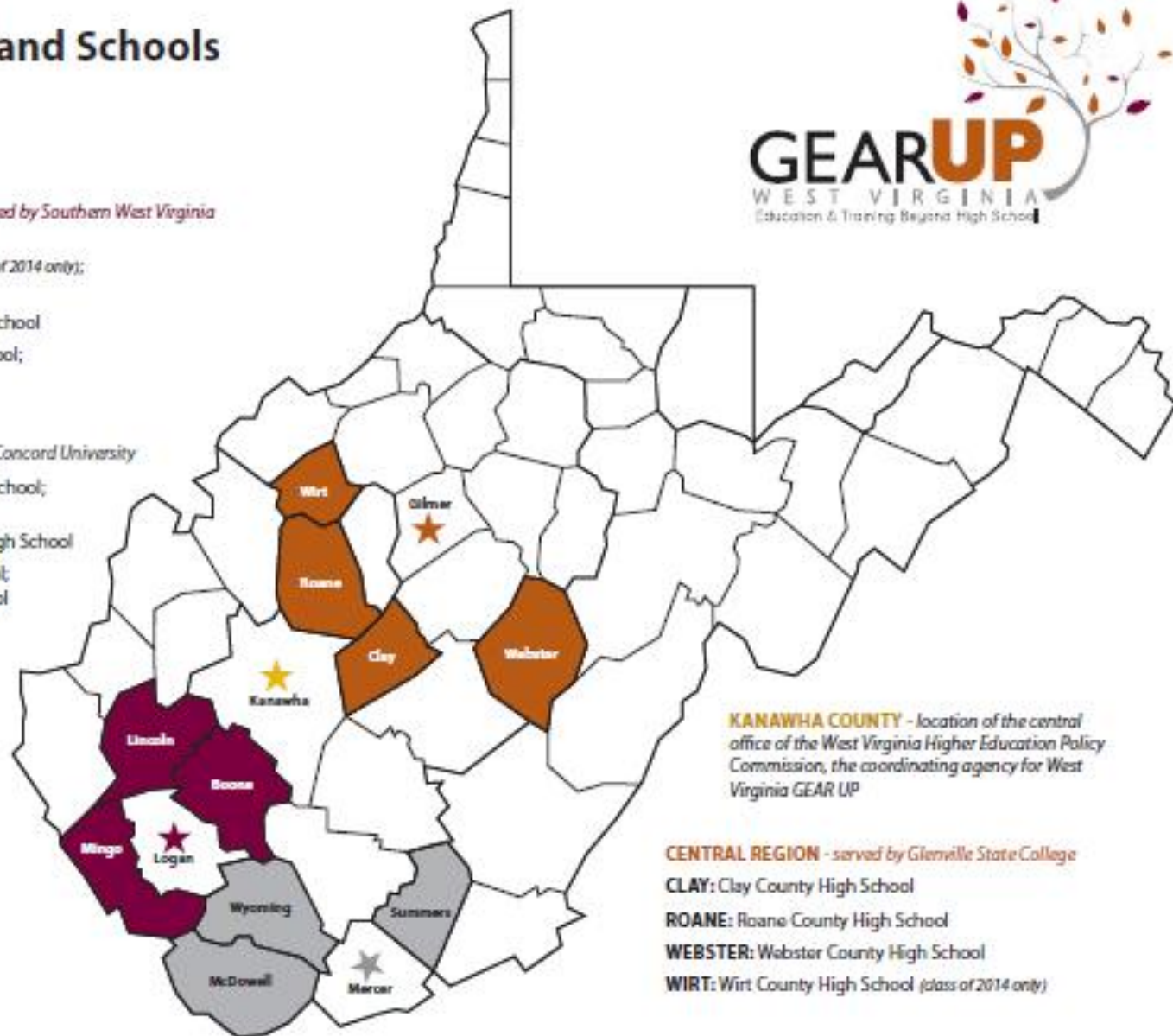
MINGO: Mingo Central High School;
Tug Valley High School

SOUTHERN REGION - served by Concord University

MCDOWELL: Mount View High School;
River View High School

SUMMERS: Summers County High School

WYOMING: Westside High School;
Wyoming County East High School



Introduction

- West Virginia GEAR UP adapts nine intervention strategies targeting **students, parents, and educators** in the programming
 - Services to students (11 types of services)
 - Services to parents (3 types of services)
 - Services to educators (6 types of PD training)

Evaluating GEAR UP Effectiveness

- Traditional approach
 - Examine stakeholders' (i.e., student, parent, teacher) changes in attitudes and behaviors
 - Examine the association between program participation (i.e., treatment versus control) and stakeholders' outcomes (e.g., student achievement, college attendance) when a comparison group is present
- What is left unanswered in these approaches?
 - What works?
 - Is the program ready to be scaled up?

Purpose of the Study

- Example effort to assess specific aspects of implementation impact using data from West Virginia GEAR UP
 - Goal 1: Share a fidelity tool capturing the key aspects of West Virginia GEAR UP program
 - GEAR UP Fidelity Index (GUFI)
 - Goal 2: Validate the predictability of GUFI
 - Examine the association between GUFI and student aspirational outcomes

Study Questions

- What was the status of West Virginia GEAR UP with respect to delivering the services to the stakeholders?
 - Did the implementation fidelity of GEAR UP program vary within and between GEAR UP schools? Were schools different with regard to GUFIs measures?
- Was GUFIs predictive of program outcomes?
 - Were there significant associations between GUFIs measures and student aspirational outcomes?

GEAR UP Fidelity Index (GUFI)

- What is implementation fidelity?
- Why measure implementation fidelity?
- How to measure implementation fidelity?
 - Structure
 - Process

GEAR UP Fidelity Index (GUFI)

- GUFI measures four key aspects of program fidelity:
 - Adherence: extent to which services are delivered
 - Dose: amount of program specific services received by participants
 - Quality: participants' ratings of effectiveness and satisfaction
 - Participant Responsiveness: participants' awareness and level of involvement in activities and content

Adherence

Fidelity measure	Measure	Data source
Global Adherence	Educators' report of the level of GEAR UP implementation in school	Educator survey
Adherence to Student Services	Number of service types received by students divided by the total number of services types available	Service data
Adherence to Parent Services	Number of service types received by parents divided by the total number of service types available	Service data
Adherence to Educator Services	Number of service types received by educators divided by the total number of service types available	Service data

Dose

Fidelity measure	Measure	Data source
Dose to Students	Number of hours students received service provided by GEAR UP	Service data
Dose to Parents	Number of hours parents received services provided by GEAR UP	Service data
Dose to Educators	Number of hours school personnel participated in PD activities provided by GEAR UP	Service data

Quality

Fidelity measure	Measure	Data source
Educator Readiness	Educators' perception of whether GEAR UP PD has prepared them to engage in instructional and student support activities (e.g., college access, tutoring, mentoring, parent engagement)	Educator survey
Educator Perceptions of Service Quality	Educators' ratings of satisfaction with the services received through the GEAR UP grant this year	Educator survey
Student and Parent Satisfaction with Services	Students' and parents' satisfaction with the individual services provided for students	Student and parent survey
Student and Parent Perceptions of Service Impact	Parents' and Students' perceptions of whether GEAR UP has helped students become more academically prepared	Student and parent survey
Educator Perceptions of Service Impact	Educators' perceptions of whether GEAR UP is having a positive impact in school, county, and/or community	Educator survey

Participant Responsiveness

Fidelity measure	Measure	Data source
Educator Involvement in GEAR UP activities	Educator report of the frequency of participation in GEAR UP services provided to students	Educator survey
Educator Awareness of GEAR UP goals	Educators' familiarity with GEAR UP goals	Educator survey
Student and Parent Awareness of Resources	Students' and parents' awareness of GEAR UP services and resources (e.g., College Foundation of West Virginia [CFWV])	Student and Parent survey

Samples

- Data collected from participating students, parents, and educators in Year 3 of West Virginia GEAR UP were used (2010-2011)
- Two types of data were available:
 - Service data collected by site coordinators
 - Survey data
 - Student survey (N = 846) and Parent survey (N = 570)
 - Educator survey (N = 372)
- Final sample
 - 800 students with valid unique identifiers were included for the analyses
 - 58% female
 - 93% Caucasian
 - 372 educator surveys were included for the analyses
 - 3% principals, 86% teachers, 5% counselors, and 6% others

Methods

- Data were nested (i.e., students nested within schools)
- Multilevel modeling used to examine questions
 - Approach is preferred because it takes between- and within-school variability into consideration (Mowbray et al., 2003; Zvoch, 2009)
- HLM program used to conduct analyses

Findings for Question 1:

Did implementation fidelity vary within and between schools?

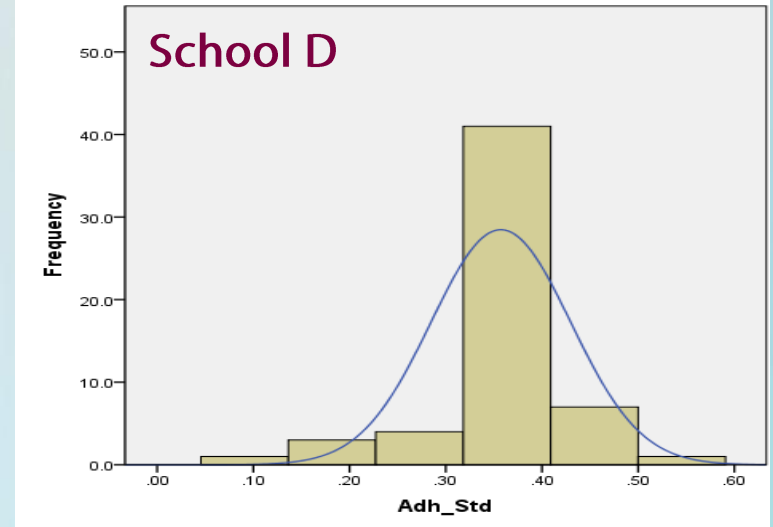
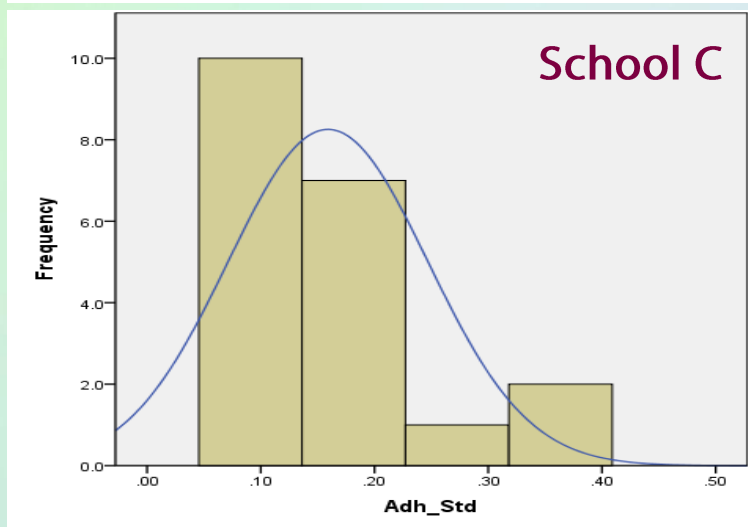
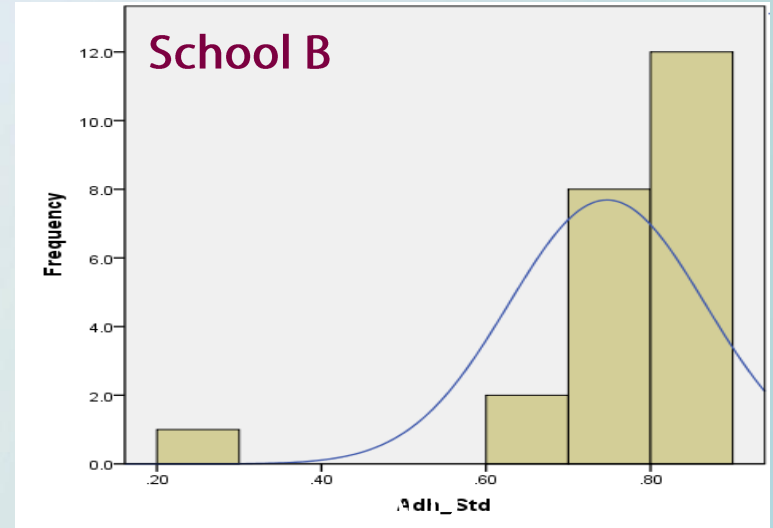
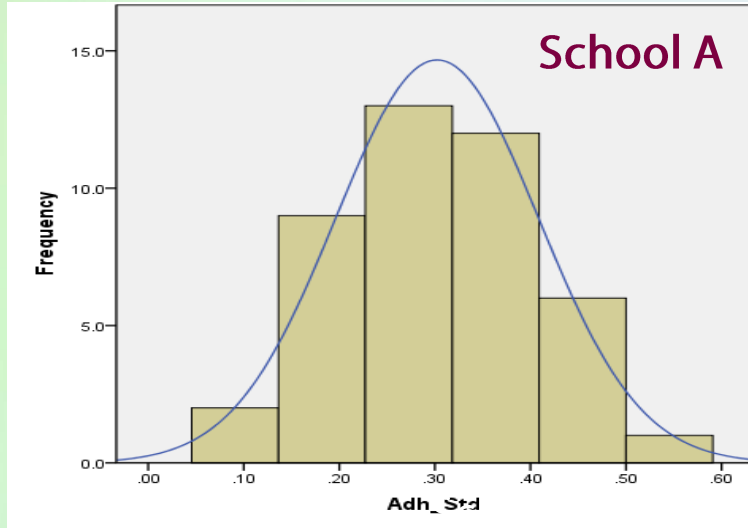
- Level of implementation varied within and between schools

Variables	Grand Mean	SE	Variation Within	Variation Between	ICC
Adherence					
Global Adherence	2.57	0.05	0.24***	0.03	0.11
Adherence to Student Services	0.37	0.03	0.01***	0.02**	0.57
Adherence to Parent Services	0.18	0.03	0.05**	0.13*	0.74
Adherence to Educator Services	0.21	0.01	0.01***	0.00	0.00
Dose					
Dose to Students	34.50	6.93	1835.20***	724.44*	0.28
Dose to Parents	2.00	0.43	8.57***	2.68*	0.24
Dose to Educators	8.49	1.10	110.53***	13.85	0.11
Quality					
Educator Readiness	2.80	0.07	0.81***	0.03	0.03
Educator Perceptions of Quality	4.31	0.09	0.50***	0.10	0.16
Student and Parent Satisfaction	3.30	0.03	0.31***	0.00	0.01
Student and Parent Perceptions of Impact	0.43	0.02	0.21***	0.00	0.02
Educator Perceptions of Service Impact	4.07	0.09	0.89***	0.09	0.09
Participant Responsiveness					
Educator Involvement in GEAR UP services	2.08	0.05	0.43***	0.02	0.04
Educator Awareness of GEAR UP goals	2.12	0.05	0.41***	0.01	0.02
Student and Parent Awareness of Resources	0.30	0.03	0.17***	0.01	0.05

*** p < 0.001; ** p < 0.01; * p < 0.05

Findings for Question 1 – Cont.

- Example: Between school variation of Adherence to Student Services



Findings for Question 2:

Was GUF1 predictive of program outcomes?

- HLM results suggest that three aspects of GUF1 measures were predictive of student aspirational outcomes – **Adherence, Quality, and Participant Responsiveness**

Adherence	Leader Orientation		Achiever Orientation		Teacher Support		Positive Environment	
	B	SE	B	SE	B	SE	B	SE
Global Adherence	0.22	0.46	-0.26	0.37	0.12	0.53	0.84	0.46
Adherence to Educator Services	-0.29	1.95	-0.13	1.57	-3.59	2.26	-2.90	1.97
Adherence to Student Services								
WS Estimation	-0.63*	0.32	-0.24	0.25	-0.49	0.36	-0.20	0.31
BS Estimation	1.21	1.00	0.03	0.80	-0.54	1.12	2.24	1.00
Adherence to Parent Services								
WS Estimation	0.42	0.28	0.13	0.22	0.49	0.31	0.63*	0.28
BS Estimation	-1.71	0.48	-0.22	0.39	0.67	0.56	0.52	0.49

Note. BS = Between-school effect; WS = within-school effect.

*** p < 0.001; ** p < 0.01; * p < 0.05

Findings for Question 2 – Cont.

Quality	Leader Orientation		Achiever Orientation		Teacher Support		Positive Environment	
	B	SE	B	SE	B	SE	B	SE
Educator Readiness	0.19	0.34	0.11	0.27	0.80	0.39	0.84	0.34
Ed. Perceptions of Quality	-0.21	0.32	0.10	0.26	-0.26	0.37	-0.52	0.33
Ed. Perceptions of Impact	-0.41	0.32	-0.16	0.28	-0.32	0.36	-0.90	0.32
Student & Parent Satisfaction								
WS Estimation	0.18**	0.05	0.17***	0.04	0.23***	0.05	0.18***	0.05
BS Estimation	-1.04	0.51	-0.32	0.42	0.31	0.57	-0.32	0.53
St. & Pt. Perceptions of Impact								
WS Estimation	0.15**	0.06	0.07	0.05	0.14*	0.06	0.10	0.06
BS Estimation	-0.11	0.40	0.27	0.32	0.39	.048	0.58	0.41

Note. BS = Between-school effect; WS = within-school effect.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Findings for Question 2 – Cont.

Participant Responsiveness	Leader Orientation		Achiever Orientation		Teacher Support		Positive Environment	
	B	SE	B	SE	B	SE	B	SE
Educator Involvement in GEAR UP services	-0.81	0.79	0.23	0.63	-0.96	0.90	-2.50	0.79
Educator Awareness of GEAR UP goals	-0.22	0.58	0.06	0.47	0.80	0.65	1.59	0.58
Student and Parent Awareness of Resources								
WS Estimation	0.16**	0.06	0.05	0.05	0.17*	0.07	0.16*	0.06
BS Estimation	-1.00	0.56	-0.16	0.44	-0.05	0.62	-1.31	0.55

Note. BS = Between-school effect; WS = within-school effect.

*** p < 0.001; ** p < 0.01; * p < 0.05

Findings for Question 2 – Cont.

Dose	Leader Orientation		Achiever Orientation		Teacher Support		Positive Environment	
	B	SE	B	SE	B	SE	B	SE
Dose to Educators	0.00	0.02	0.01	0.01	0.02	0.02	-0.01	0.02
Dose to Students								
Medium Dose	0.08	0.08	-0.00	0.06	0.04	0.09	0.02	0.08
High Dose	-0.10	0.09	0.00	0.07	0.05	0.11	-0.02	0.09
Dose to Parents								
Low Dose	-0.03	0.11	-0.03	0.09	-0.11	0.13	-0.14	.011
High Dose	0.11	0.15	0.08	0.12	-0.09	0.17	-0.16	0.15

Conclusion

- Within schools, students, parents, and educators had different experiences with GEAR UP services.
- These variations explained student aspirational outcomes.
 - Students who experienced higher adherence, higher quality, and higher participant responsiveness tended to reported higher aspirations.

Conclusion

- Between schools, students, parents, and educators had different experiences with GEAR UP services, especially in the aspects of Adherence and Dose; yet, these variations between schools did not further explained student variations in aspirational outcomes.

Conclusion

- Lack of association between educator reports of fidelity measures may be due to:
 - Educator report of fidelity is a distal predictor of student outcomes. Future studies investigating the associations between educator report of fidelity and educator outcomes may be helpful to understand how GEAR UP services can have an indirect effect on students through educators.
 - The effect of educator report of fidelity may be washed away when aggregating data into school level.
 - Previous literature suggests teacher self-report data were less predictive (Dusenbury, et al. 2003). Further studies may consider collecting observational data.

Implications

- Implications for policy makers
 - Evidence based activities, best practices
- Implications for GEAR UP staff
 - Greater understanding of impact
 - Monitor adherence
- Implications for research
 - Alternative method to evaluate effectiveness
 - Future: predictive validity with other outcomes

References

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- Mowbray, C. T., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: development, measurement, and validation. *American Journal of Evaluation, 24*(3), 315-340.
- Zvoch, K. (2009). Treatment fidelity in multisite evaluation: A multilevel longitudinal examination of provider adherence status and change. *American Journal of Evaluation, 30*(1), 44-61.

Survey Savvy

Contact Information

Copies of this presentation are available at www.wvgearup.org in the Resources section under the Educator Resources tab.

Michelle N. Johnson

West Virginia GEAR UP, Research and Data Analyst
Division of Student Success and P-20 Initiatives
West Virginia Higher Education Policy Commission
(304) 558-0655
michellej@hepc.wvnet.edu

Georgia K. Hughes-Webb

Research & Evaluation Specialist
Edvantia, Inc.
(304) 347-0413
georgia.hughes-webb@edvantia.org

Josh Groves

Programmer/Analyst
SCRIBE Development Team
Xcalibur, Inc.
(703) 896-5700
jgroves@xcalibur.com

GU Fidelity Index (GUFI)

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Michelle N. Johnson

West Virginia GEAR UP, Research and Data Analyst
Division of Student Success and P-20 Initiatives
West Virginia Higher Education Policy Commission
(304) 558-0655
michellej@hepc.wvnet.edu

Georgia K. Hughes-Webb

Research & Evaluation Specialist
Edvantia, Inc.
(304) 347-0413
georgia.hughes-webb@edvantia.org

Dr. Hsiang-Yeh Ho

Research & Evaluation Specialist
Edvantia, Inc.
(615) 565-0104
hsiang.ho@edvantia.org