



Reflections on Partnerships

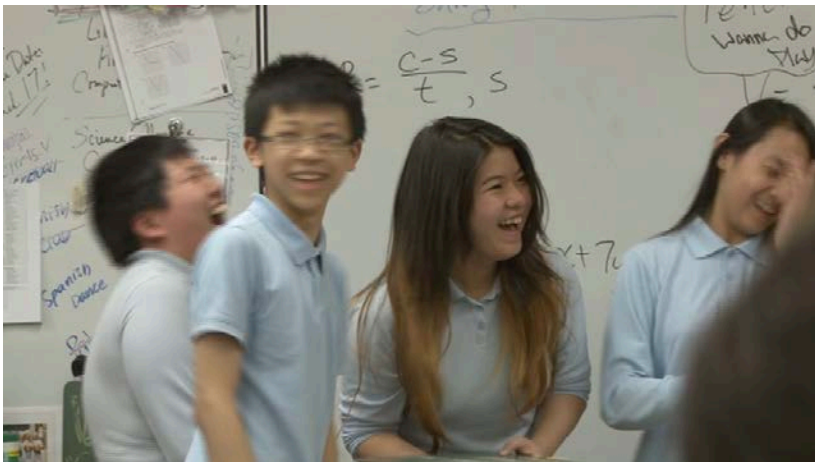
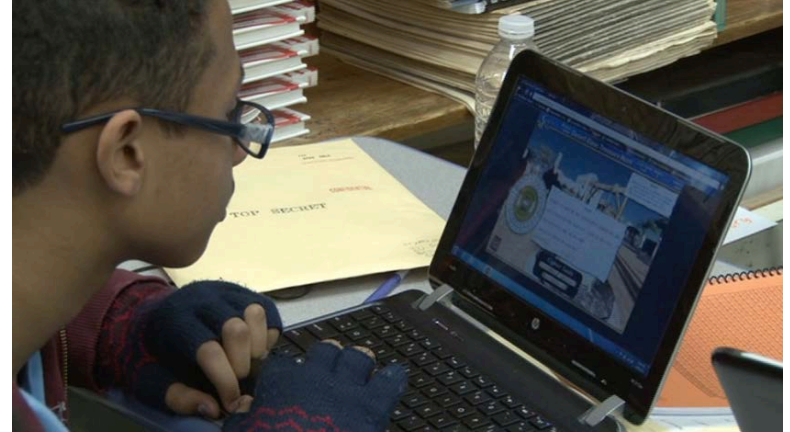
CryptoClub Project

Janet Beissinger and Bonnie Saunders

University of Illinois at Chicago



Afterschool and Online



Crypto Club

Immerse Yourself in Cryptography!
Crack ciphers, discover secrets, and improve your math skills!

- Games
- Challenges
- Ciphers
- Comics
- Math Stuff
- For Teachers

Key: 3

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NSF ITEST Project

Extended Learning Through Student-Generated Video Tutorials

Multiplicative Ciphers: More Cracking 2

Tim and Tim are brothers. One wrote this letter to the other. He encrypted it with a multiplicative cipher. Crack the message. What key was used?

Dear Tim
 turn your radio dial to
 station + you will hear
 something very interesting
 see you later
 Tim

Handwritten work on the right shows the decryption process:

$$\begin{array}{r} 3 \\ \times 23 \\ \hline 69 \\ - 26 \\ \hline 343 \\ - 26 \\ \hline 17 \end{array}$$

- continue the good work!!

1. Use the inverse of the key found in the example to find out where the secret agent lives.
 2. Crack the following messages. What were the encrypting keys?

A. Key _____ $3(15)=19$
 double T C O P J I

B. Key _____ $3(27) \pmod{26}$
 true D P K C H Z K C

Handwritten work includes:

- $3(21) = 19 \pmod{26}$
- $3(9) \pmod{26} = 1$
- $3x = 19$
- $3(27) \pmod{26} = 15 \dots$
- $7 \times 15 \equiv 1$
- $25 \times 15 \equiv 11$

Letter to Number Table

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

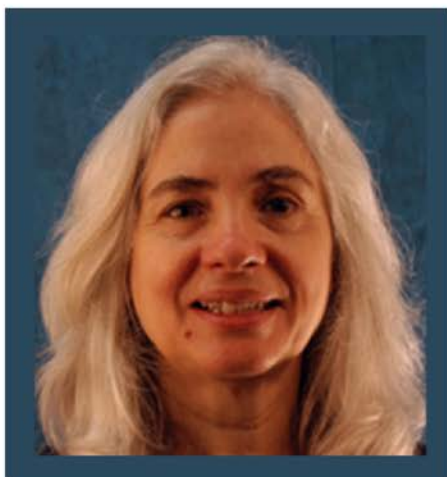


Partnerships

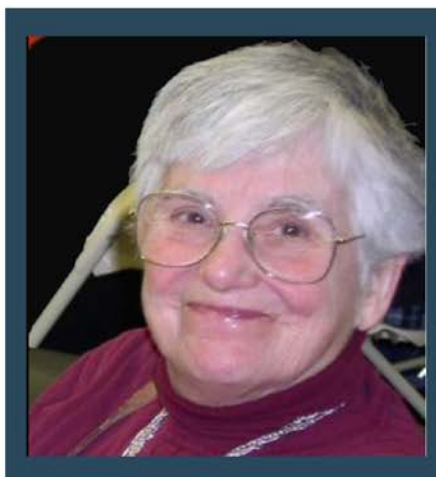




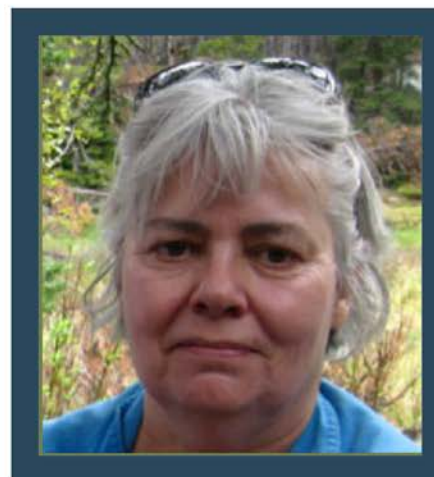
Development Partners



Janet Beissinger



Vera Pless



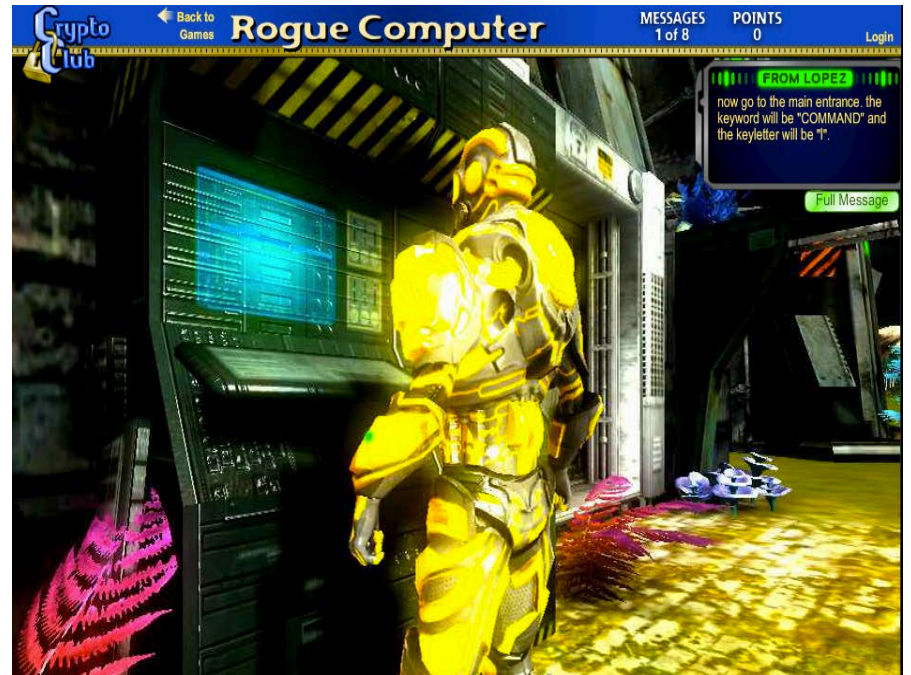
Bonnie Saunders



Development Partners



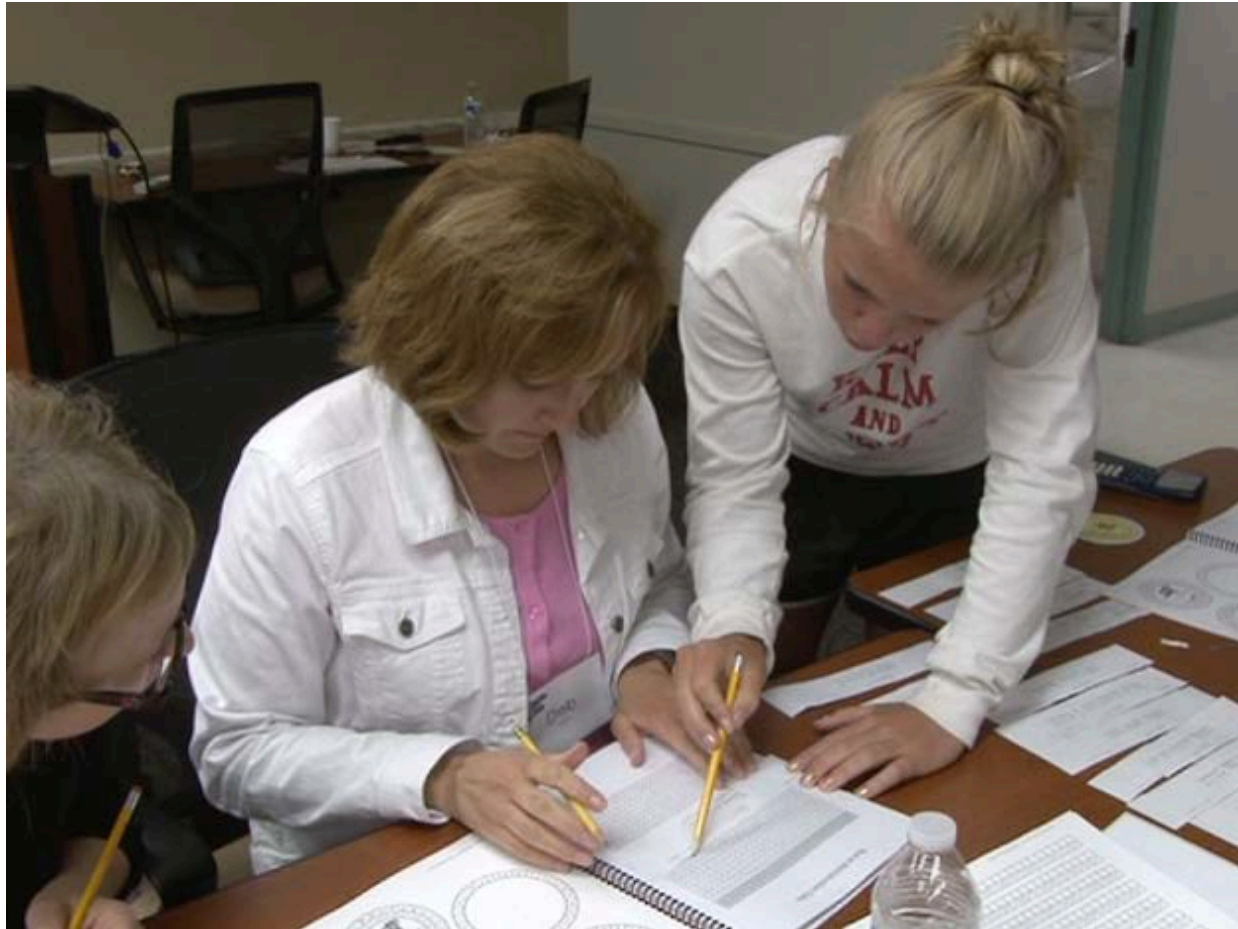
Dave Schaller



CryptoClub.org



Partners During Development



Pilot Teachers



YPP- The Young People's Project





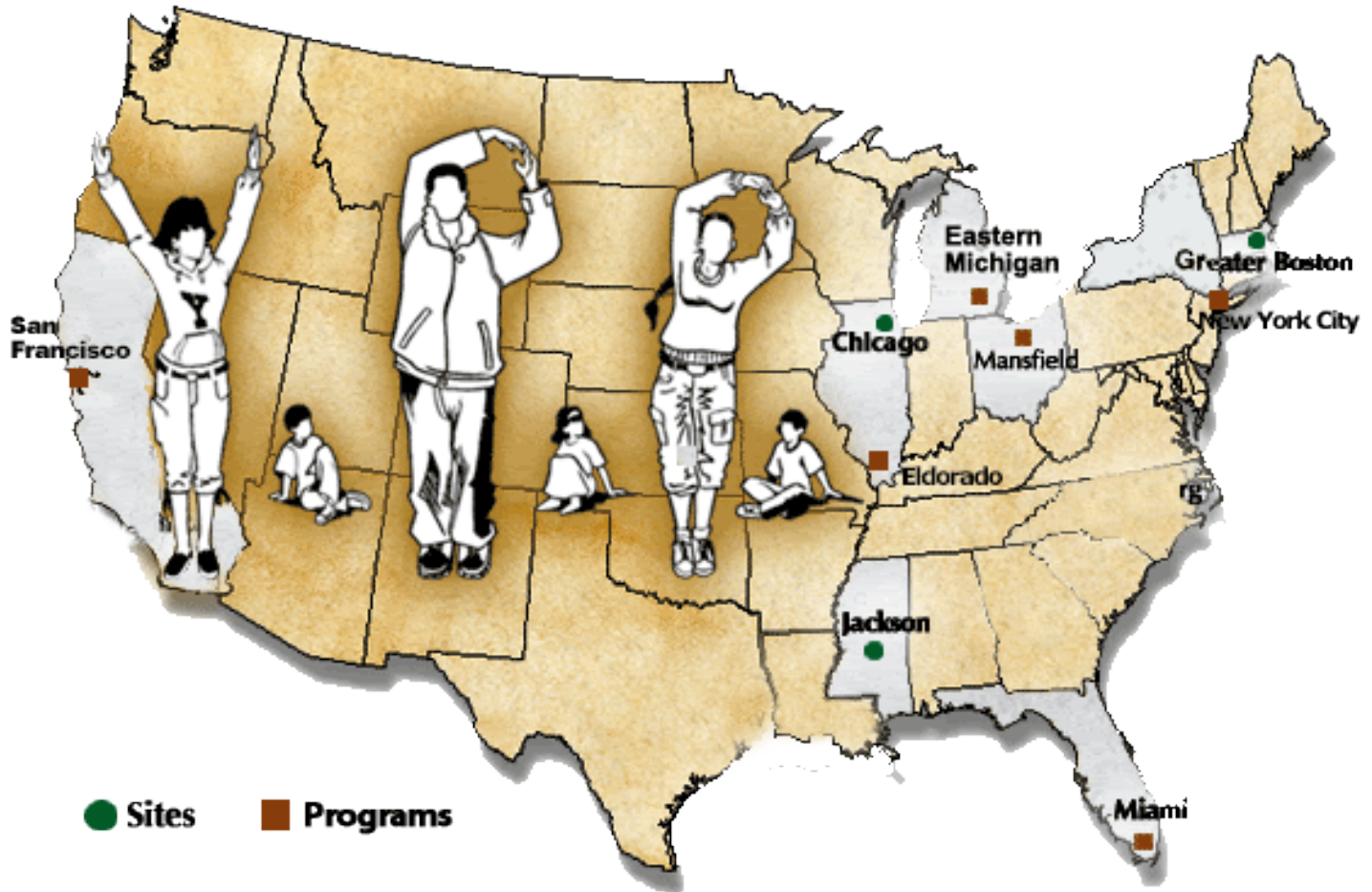
YPP- The Young People's Project



CHICAGO SITE- Key partner during development

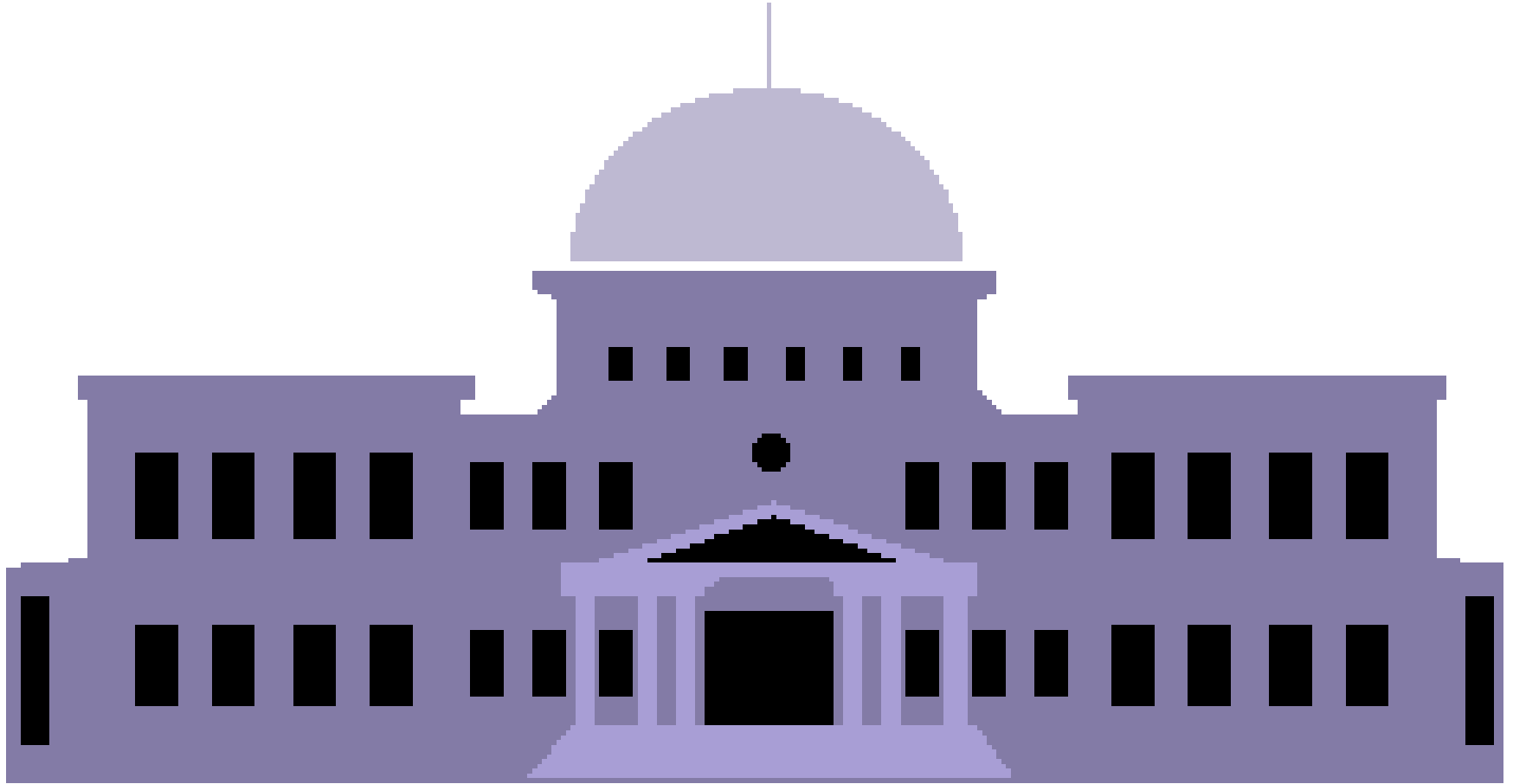


Sites Nationwide



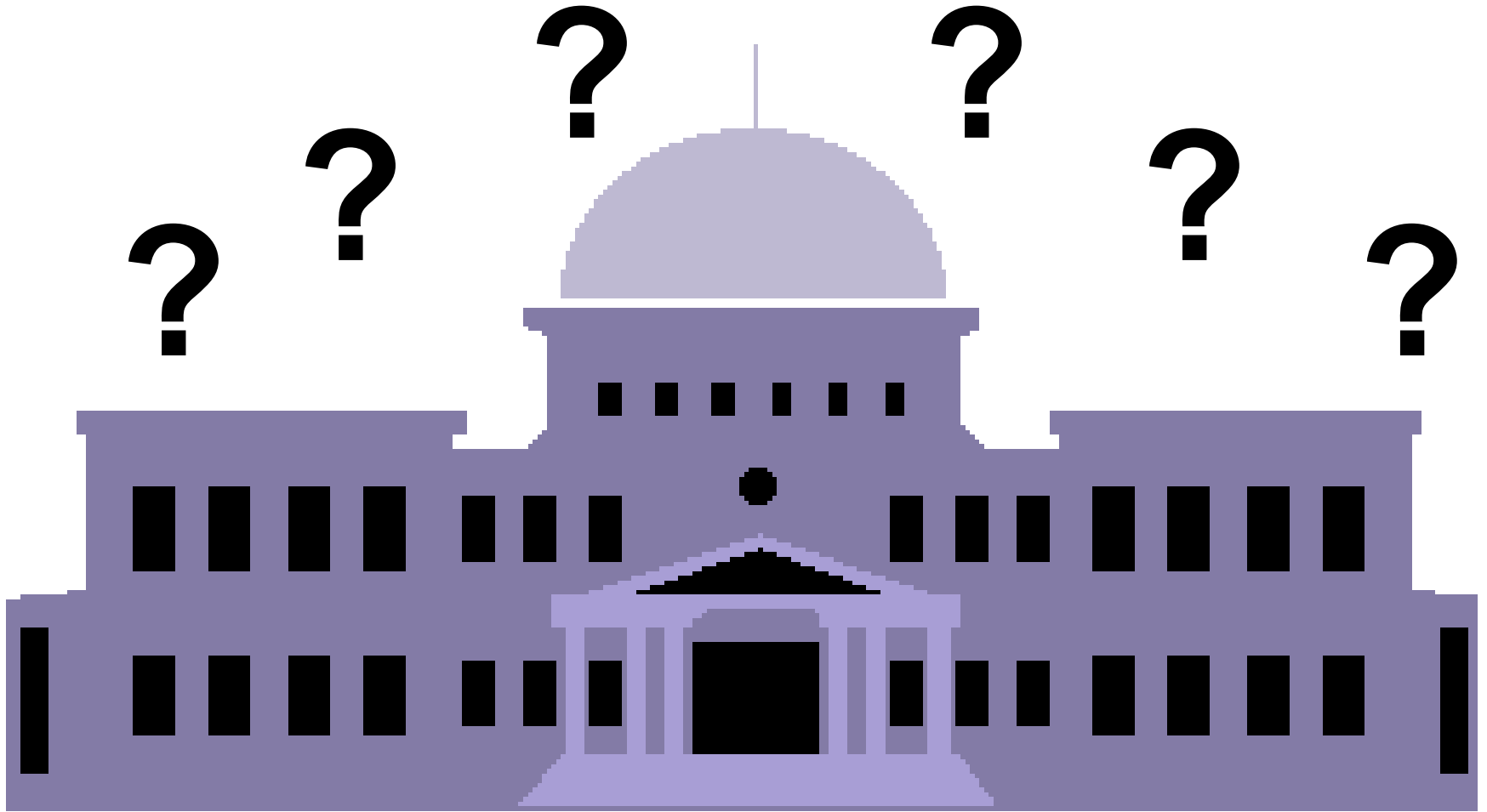


Museum





Museum



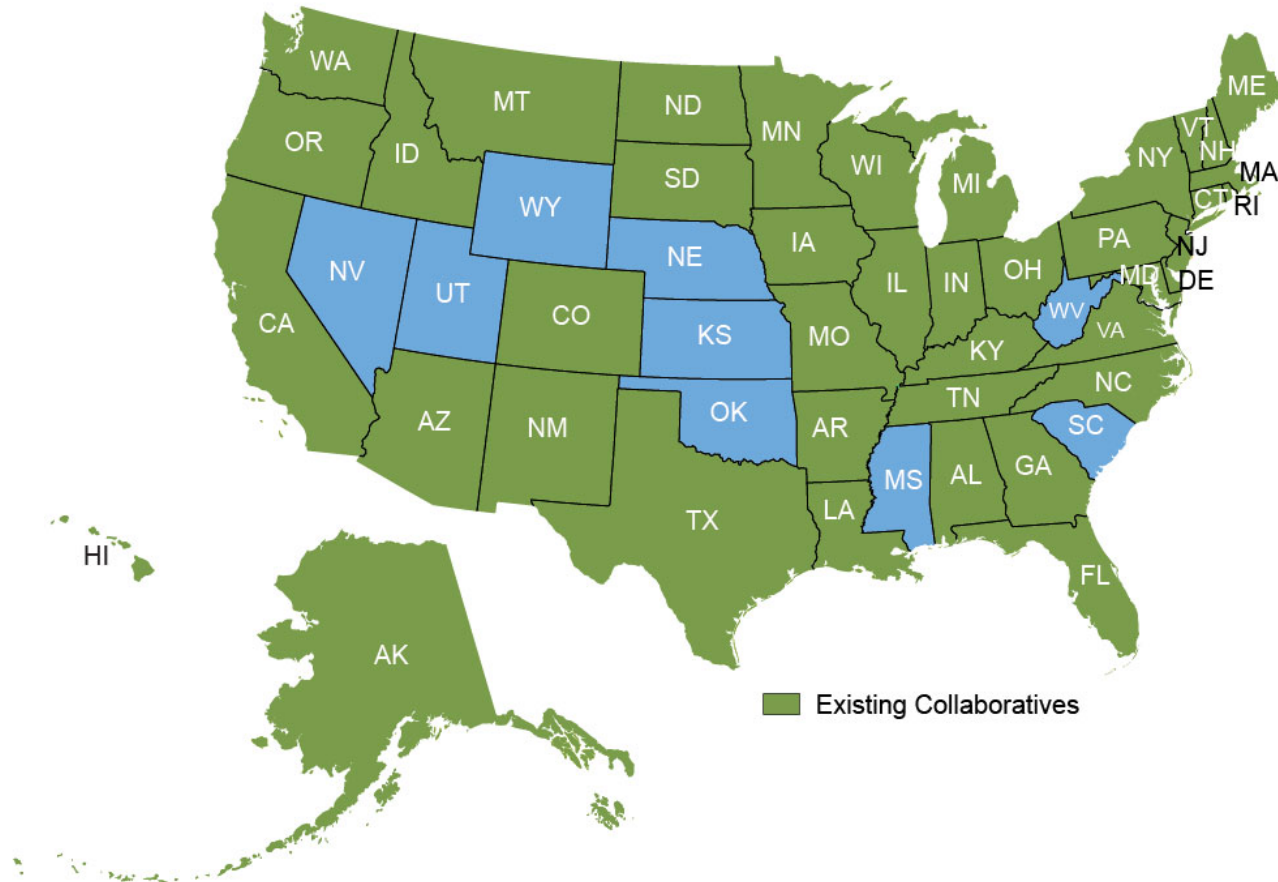


Lesson: Things change. Be Flexible.



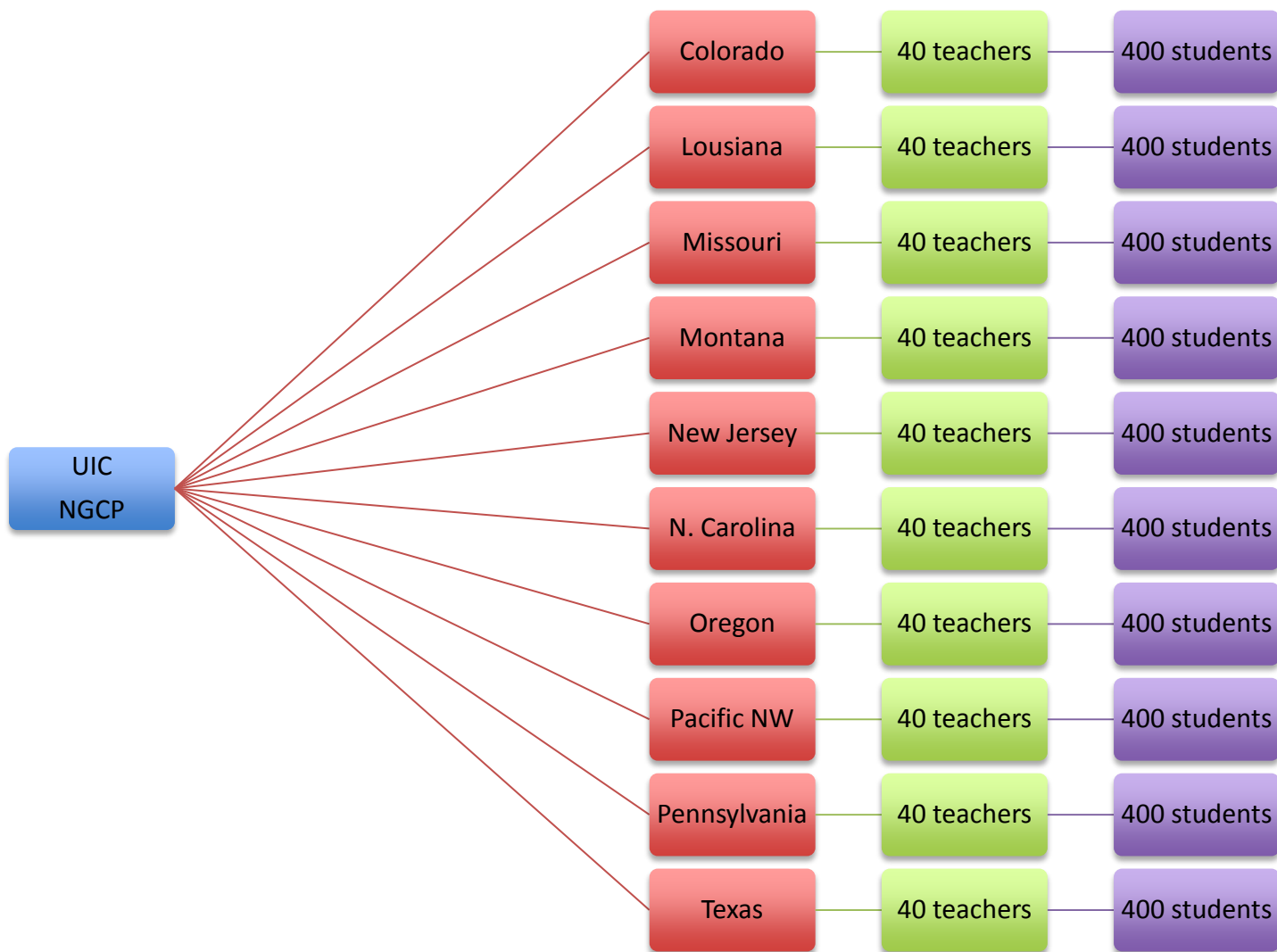


National Girls Collaborative Project





Train the trainer model





IMPACT

Community of Trained Educators
Directly Impacting Youth in their Communities





Lessons Learned

- Communication is important
- Commitment is important



Communication Strategies

Webinars



Phone/Conference Calls



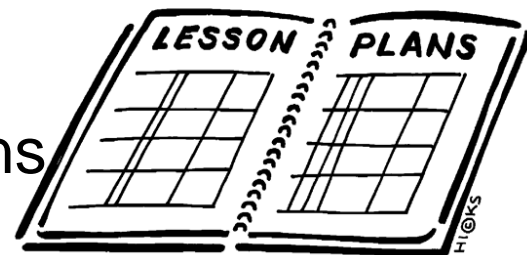
NGCP has experience with facilitating communication.



Strategies for Increasing Commitment

Encourage site leaders to:

- Adapt and share PD plans



- Present at conferences

- Submit posts to our **blog**



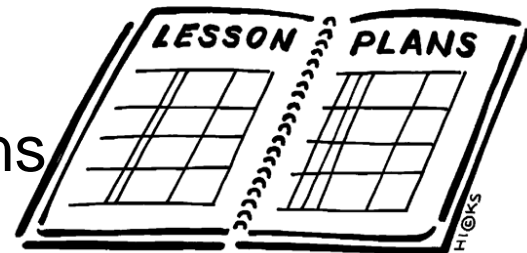
Help organize and lead the webinars



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