Transcript: Betsy's Conjecture

Third grade, Public Elementary School, Michigan
Wednesday, January 31, 1990

Seating Arrangement

Jeannie	Betsy
Maria	Daniel

Tembe	Lindiwe
Lucy	Cassandra
	Mark

Nathan	Sheena
Devin	Mei
Keith	

Ofala	Harooun
Riba	Sean
	Tory
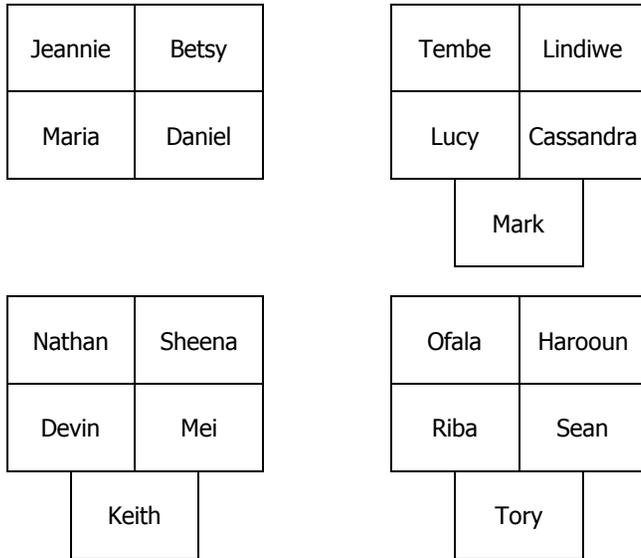
January 31, 1990.

The class is discussing a conjecture:

> Betsy's conjecture:
> An odd number plus an odd number equals an even number.

*This is one of several conjectures on the table in the class. Others include:
an even number plus an even number equals an even number, and an odd
number plus an even number equals an odd number. The children have
been providing examples of the conjecture and considering a revision Betsy
had proposed, but that the class ultimately ruled out.*

Focus questions:
To what extent does the explanation:
* *Have a clear purpose*
* *Have a logical structure*
* *Use representations and language clearly and carefully*
* *Have a focus on meaning that is oriented to the listener(s)*

1:03:51

| 1, 2	Teacher:	Betsy, you'd like to show a way to prove that it's always true?
3	Betsy:	Yeah.
4	Teacher:	Okay. Why don't you do that?
5, 6, 7	Betsy:	What we figured out how it's always true is that we would have seven dots plus- or lines plus seven lines *(Draws fourteen lines on the board, seven at a time)*
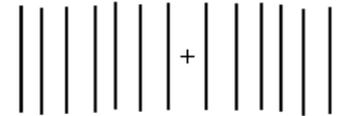
| 8, 9, 10 | | and then- *(Counts the lines)* and then we said that we had to circle them by twos, *(Circles the lines in groups of two)* |
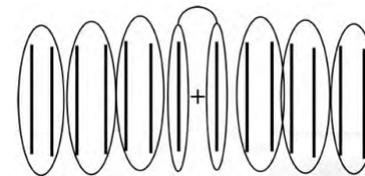
11		and then also we said that an even number- Just a
12		second. *(Finishes circling groups of two lines).* That if
13		you added another even one to an odd- or another one
14		to an odd number, then it would equal an even number
15		because all odd numbers if you circle them- What we
16		found out is that all odd numbers if you circle them by
17		twos, then there's one left over. So if you plus one of-
18		or if you plus another odd number, then the two ones
19		left over you can group together and it will make an
20		even number.

1:05:09

1:05:48

21	Betsy:	If an odd number plus an odd number- If you add
22		another number with an odd number, then it equals an
23		even number because an even number plus one equals
24		an odd number. So if you added two odd numbers
25		together you can add the ones left over and it would
26		always equal an even number.

1:06:05

NAME	GENDER	RACE	COUNTRY	ENGLISH PROFICIENCY	HOW LONG AT THIS SCHOOL[1]
Lindiwe	M	African-American	U.S.A./South Africa	fluent	3 weeks
Nathan	M	White	Ethiopia	fluent	3 years
Betsy	F	White	Canada	native speaker	4 months
Daniel	M	Asian	Indonesia	developing	3 years
Jeannie	F	White	U.S.A.	native speaker	3 years
Keith	M	African-American	U.S.A.	native speaker	3 weeks
Tembe	M	African Black	Kenya	fluent	3 years
Mei	F	Asian	Taiwan	fluent	2 years
Lucy	F	White	U.S.A.	native speaker	3 years
Maria	F	Latina	Nicaragua	beginning	4 months
Mark	M	White	U.S.A.	native speaker	2 years
Ofala	F	African Black	Nigeria	fair	3 years
Devin	M	White	Nepal	beginning	9 months
Riba	F	White	Egypt	good	3 years
Harooun	M	Asian	Indonesia	developing	16 months
Sean	M	White	U.S.A.	native speaker	2 years
Sheena	F	African-American	U.S.A.	native speaker	4 months
Tory	F	White	U.S.A.	native speaker	3 weeks
Cassandra	F	African-American	U.S.A.	native speaker	16 months

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[1]*NOTE*: This column reflects the length of time the child had been in this *school* as of 1/26/90. No one had been in this *class* longer than 4 months (since September).