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World Education Leadership Symposium Online Conferences 2021 (WELSmain)

Initiator and Organizer / Initiator und Leiter:

Prof. Dr. Stephan Gerhard Huber

Host WELSmain 2021 (since 2009) / Veranstalter WELSmain 2021 (seit 2009):

Institute for the Management and Economics of Education (IBB) /
University of Teacher Education Zug (PH Zug)

Institut für Bildungsmanagement und Bildungsökonomie (IBB) /
Pädagogische Hochschule Zug (PH Zug)

Cooperation Partners / Kooperationspartner:

Association of school leaders and teachers, ministries and authorities as well as further universities and partners / Schulleitungs- und Lehrerverbände, Ministerien und Behörden sowie weitere Hochschulen und Partner

A Quantitative Analysis of K-12 Public School Enrollment and Instructional Modality during the COVID-19 Pandemic in Michigan

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Findings: How did Michigan public student enrollment change during the COVID-19 pandemic?

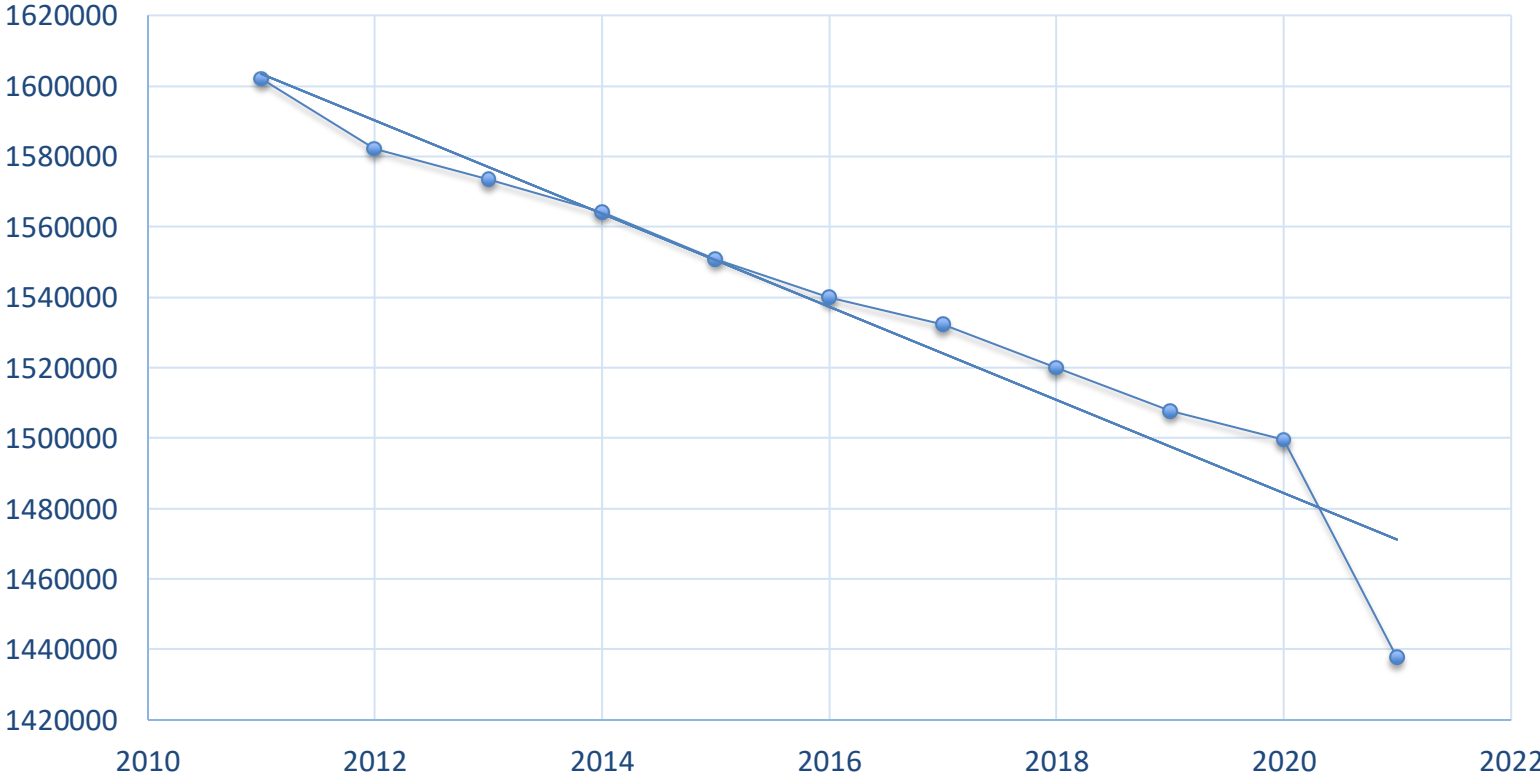
- There was a high value negative correlation between school year and total enrollment: $r(9) = -.997$ $p < .0001$ indicating that as school year increased, enrollment decreased. ($F(1,8) = 1392.35$ $p < .0001$)
- Simple linear regression predicted total enrollment: 1,486,680; observed enrollment was 1,437,612; residual value = 49,068 representing 4.3% decline, $t(9) = -37.31$, $p < .0001$.
- This means that, although Michigan has been experiencing declining enrollment over at least the prior ten years, there is sufficient evidence to suggest the rate of enrollment decline increased during the COVID-19 pandemic.

Findings: How did trends in Michigan school enrollment during 20-2021 compare to national enrollment trends?

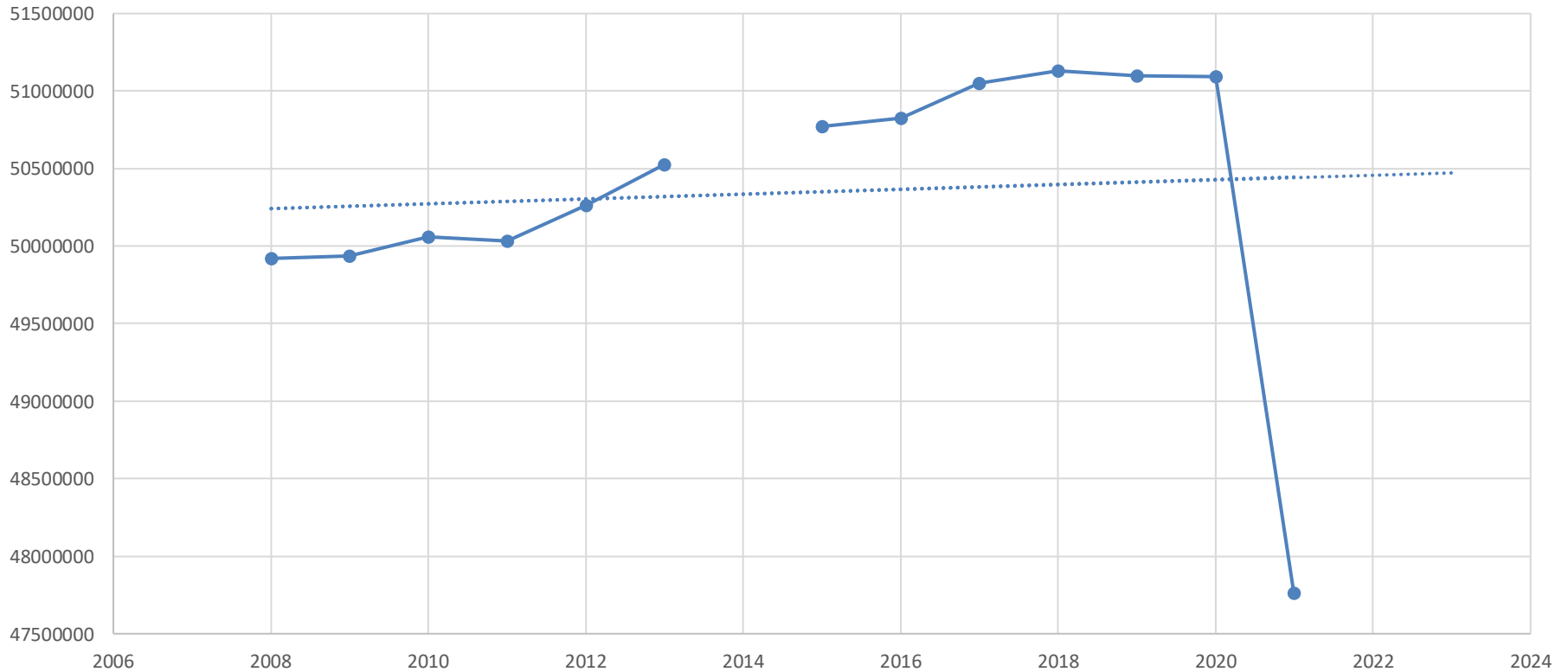
- Both Michigan and national enrollment declined during the 2020-21 school year
- Michigan decline was 4.3% while national decline was 6.96%
- The χ^2 goodness-of-fit test for both Michigan and national enrollment by federally reported race/ethnicity subgroups was significant with the largest observed declines in enrollment represent Black and White students.

- It is important to note that NCES released enrollment data early and stated that the data “has not yet undergone the full data quality follow-up process and may contain errors that have not been resolved.”

Michigan Total Enrollment 2011-2021



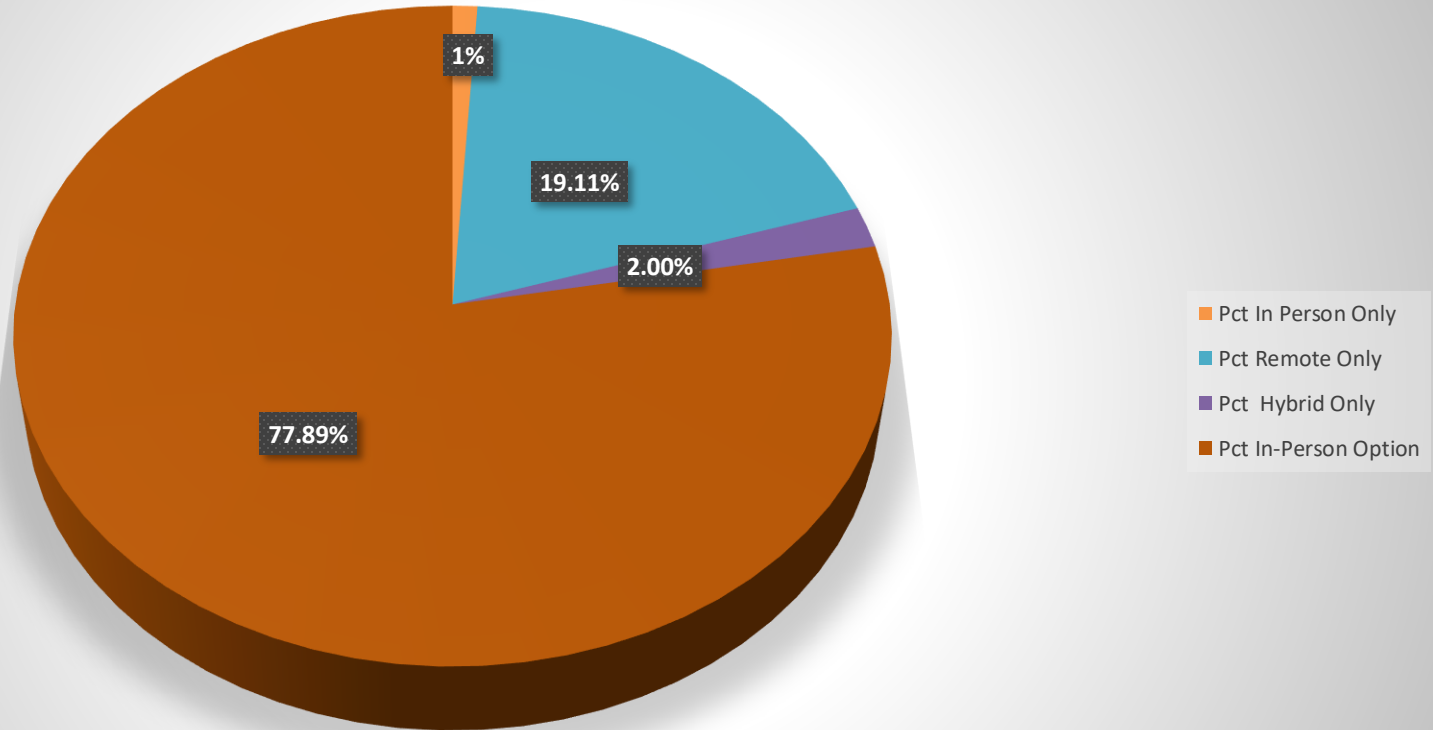
National Total Enrollment 2006-2021



Findings: Was instructional modality—in-person, remote, hybrid—correlated to COVID-19 positivity rates?

- $r(8) = -.559, p = .118$. Evidence suggests that the monthly COVID-19 positivity rates were not correlated to district remote option instructional modality.
- This may be reflective of districts' delayed decision-making and data availability:
 - Districts made modality decisions using imperfect data from prior month(s).
 - Analysis figures here are based on more complete data.

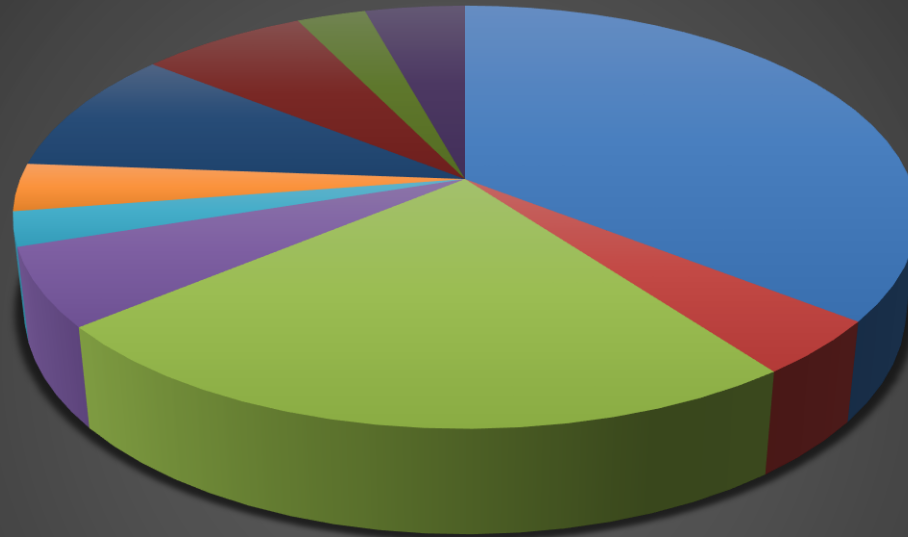
All Districts Mean by Instructional Modality 2020-21



Factors Impacting Instructional Modality Decision Making

Factor Impacting Decision Making	Mean	Minimum Observed	Maximum Observed
Closure due to COVID-19 Outbreak	306.3	84	632
Parent Preference	206.8	130	254
Student Grade Level	81.8	50	111
Student IEP/504 Plan Status	60.9	35	76
School Student Assigned	51.6	29	65
Other Factor(s)	36.6	13	59
Student At-Risk Status	36.6	25	47
Student EL Status	31.4	22	39
Struggling Student/Early Reader Status	25.3	18	34
Student ED Status	22.5	15	30

Mean Values: District Reported Modality Decision-Making

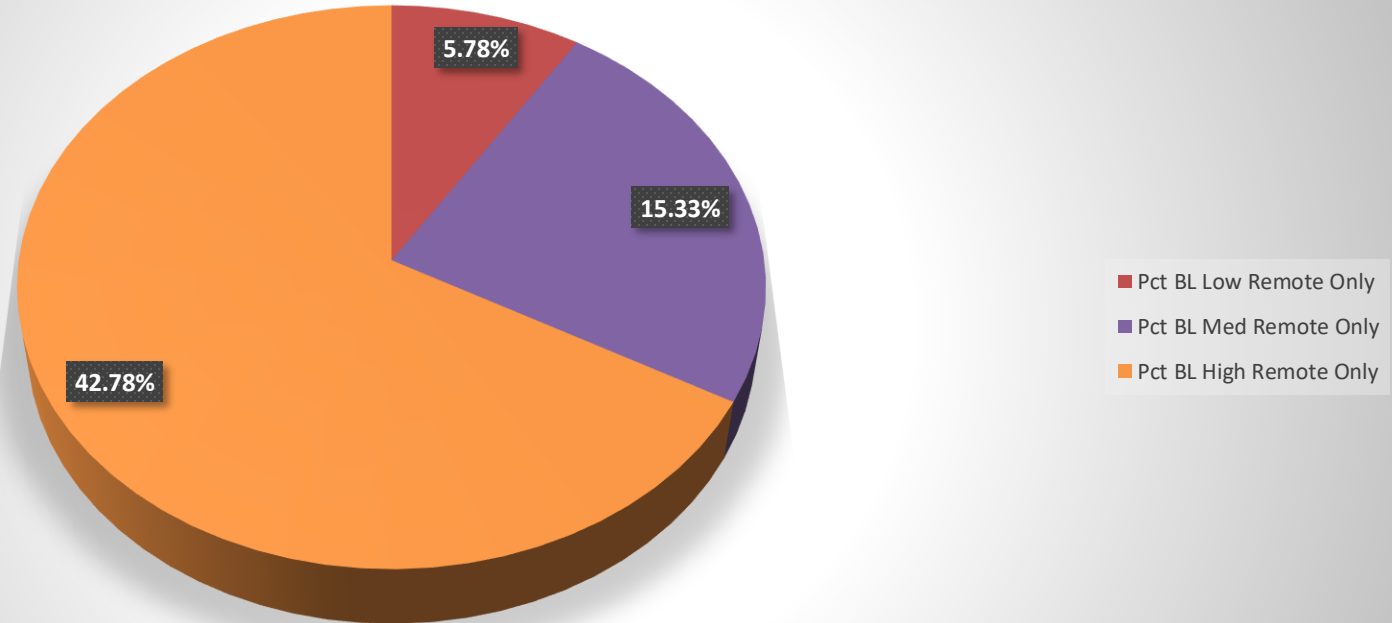


- Closure due to COVID Outbreak
- Other Factor(s)
- Parent Preference
- School Student Assigned
- Student ED Status
- Student EL Status
- Student Grade Level
- Student IEP/504 Plan Status
- Student Struggling/Early Reader Status
- Student At-Risk Status

Findings: Were there differences in district instructional modality by race/ethnicity in Michigan public schools? Districts with “High” (>24%) Black Student Population

- The test was significant for districts with high proportions of Black students, $t(8) = 2.793$, $p = .023$, with districts with high proportions of Black students offering remote-only instructional modality more frequently than districts overall.
- Evidence suggests a statistically significant difference in instructional modality by districts with high proportions of Black student enrollment offering remote-only instructional modality compared to districts overall.
- The mean percent of districts with high Black student enrollment offering remote-only instruction was 42.78%; the mean of districts overall offering remote-only instruction across the school year was 19.11%.

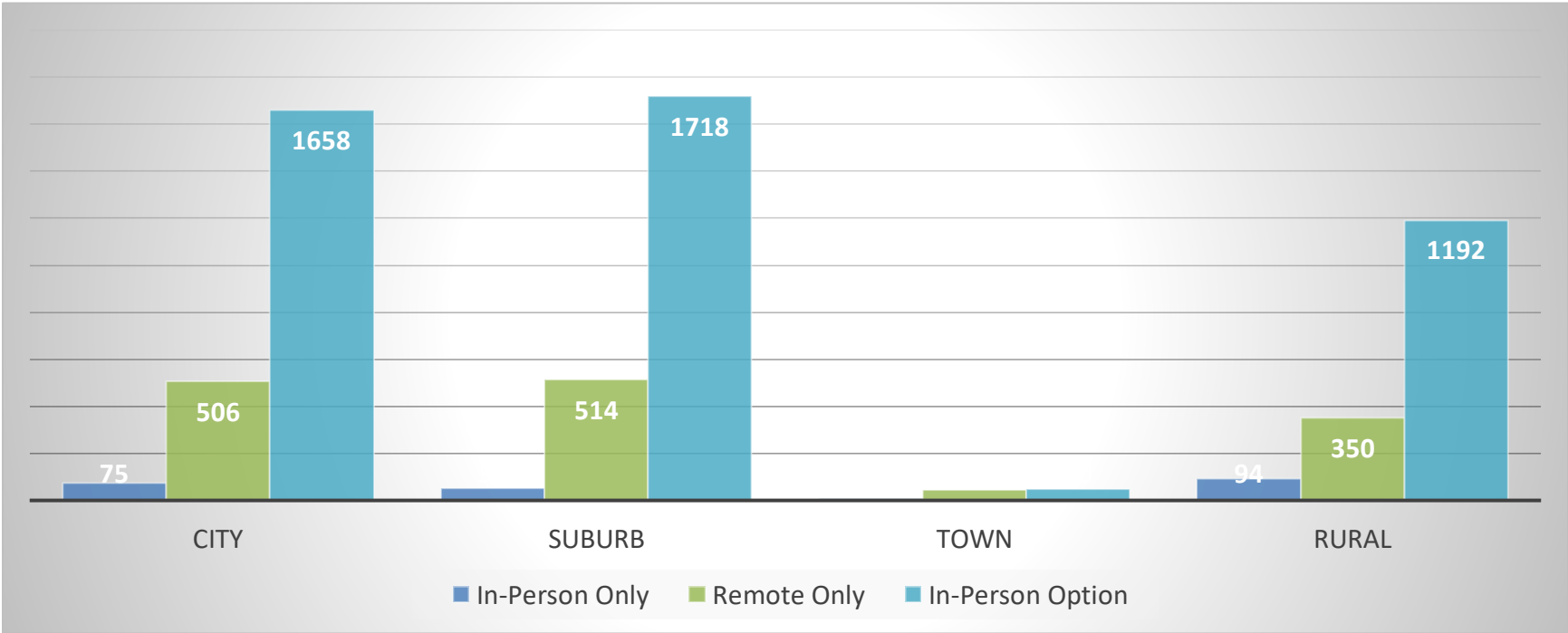
Mean of Remote-Only Instruction by Districts with Low ($\leq 1\%$), Medium (1-24%), High ($>24\%$) Black Student Enrollment



Findings: Were there differences in instructional modality by race/ethnicity in Michigan Schools. Districts with “High” (>9%) Hispanic Student population

- Next, districts with high proportions of Hispanic students (> 9%) were compared to the mean of remote-only instructional modality overall.
- This test was not statistically significant, $t(8) = .350$, $p = .735$.
- There was not sufficient evidence to suggest a difference in offering of remote-only instructional modality for districts with high proportions of Hispanic students when compared to districts offering remote-only modality overall.
- The mean percent of districts with high Hispanic student enrollment offering remote-only instruction was 25%; the mean of districts overall offering remote-only instruction across the school year was 19.11%.

Findings: Were there differences in instructional modality among Michigan City, Suburb, Town, and Rural districts?



A close-up, shallow depth-of-field photograph of a child's hand holding a wooden pencil, writing on a piece of paper. The child is wearing a white and black striped shirt. The background is softly blurred, showing a desk and a lamp, creating a warm, focused atmosphere.

Questions?

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