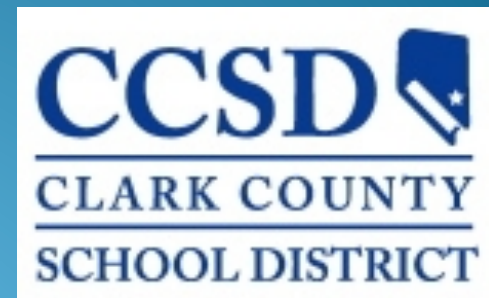


CTE Programs in Magnet High Schools: Bridging Researcher and District Perspectives

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Researchers' Needs

- Clean data!
 - Data from far-flung corners brought together and de-identified
 - Some systems don't talk to each other
- Timely data!
 - Why don't they drop everything to help us?
- Uncomfortable questions
 - When schools go rogue (i.e., teaching cancelled courses which we discover by asking district-level staff about it)

Districts' Needs

- Clear, easy to access results
- External feedback on success of POS
- Implications and recommendations

Why CCSD Created Career and Technical Academies

- Build on successful existing CTE programs
- Create smaller learning communities
- Provide CTE programs to a larger community
- Improve student graduation rates
- Address local workforce needs



Have the CCSD CTAs Been Successful?

- Seven academies are full with growing waitlists. (9,300 students)
- All are classified as 5-Star schools (highest district rating)
 - State proficiency scores
 - AP Dual Credit/Tech Prep Credit
 - Academic Growth Scores
 - School Climate Factors
 - Graduation Rates
- Numerous state and national leadership awards



Do the CCSD Career and Technical Academies Enhance Innovation?

- All instruction centered on Project Based Learning strategies
- First National Academy Foundation Pre-engineering program
- Full use of technology both inside and outside of classrooms
- All students expected to have a community based experience
 - Internship Work Experience Community Service



Clark County School District Treatment Schools

- Advanced Technologies Academy - 1,000 students
 - Wall-to-wall tech-focused academies (e.g., computer science, business, legal studies)
- Southeast Career and Technical Academy – 1,800
 - Former career center with upgraded academics (e.g., construction, graphic design, automotive, cosmetology)
- Northwest Career and Technical Academy – 2,000
 - Specially designed facility with PBL focus (e.g., pre-engineering, hospitality, Medical, culinary)

School Performance Framework

School Criteria for Star Rating System

5-Star = highest performance, 1-Star = lowest performance

- Graduation rate
 - Career and College Readiness Factors
 - Academic Growth
 - Adequate Yearly Progress (AYP)
 - Climate Factors
-
- All three treatment schools received the highest district rating: 5 stars

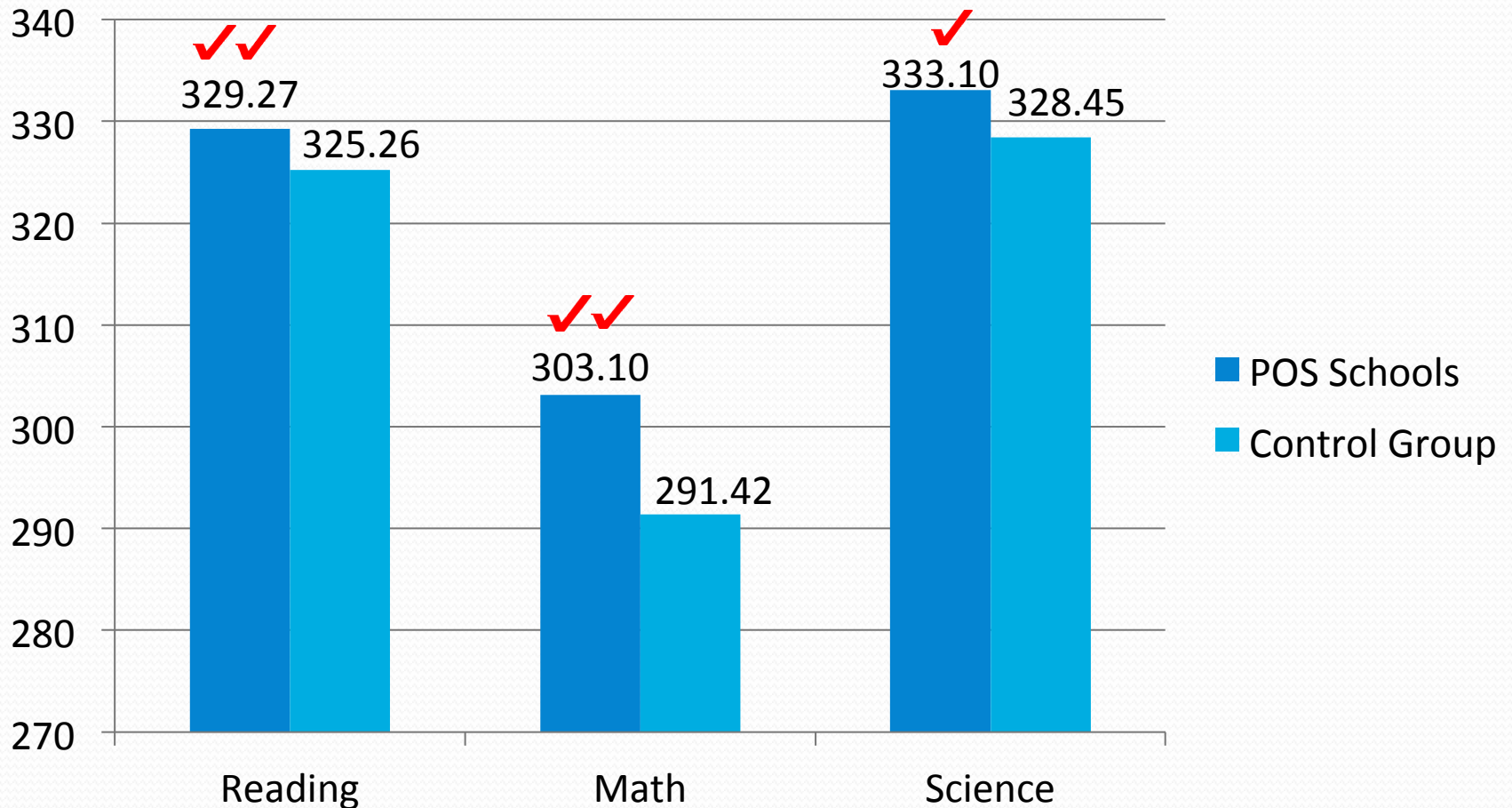
Research Questions

- To what extent does POS participation increase student:
 - academic achievement?
 - technical skills achievement?
 - high school completion?
 - employability?
 - completion of coursework leading to college credits?
- How do POS differ from the traditional high school experience at the schools that the comparison group students attend?

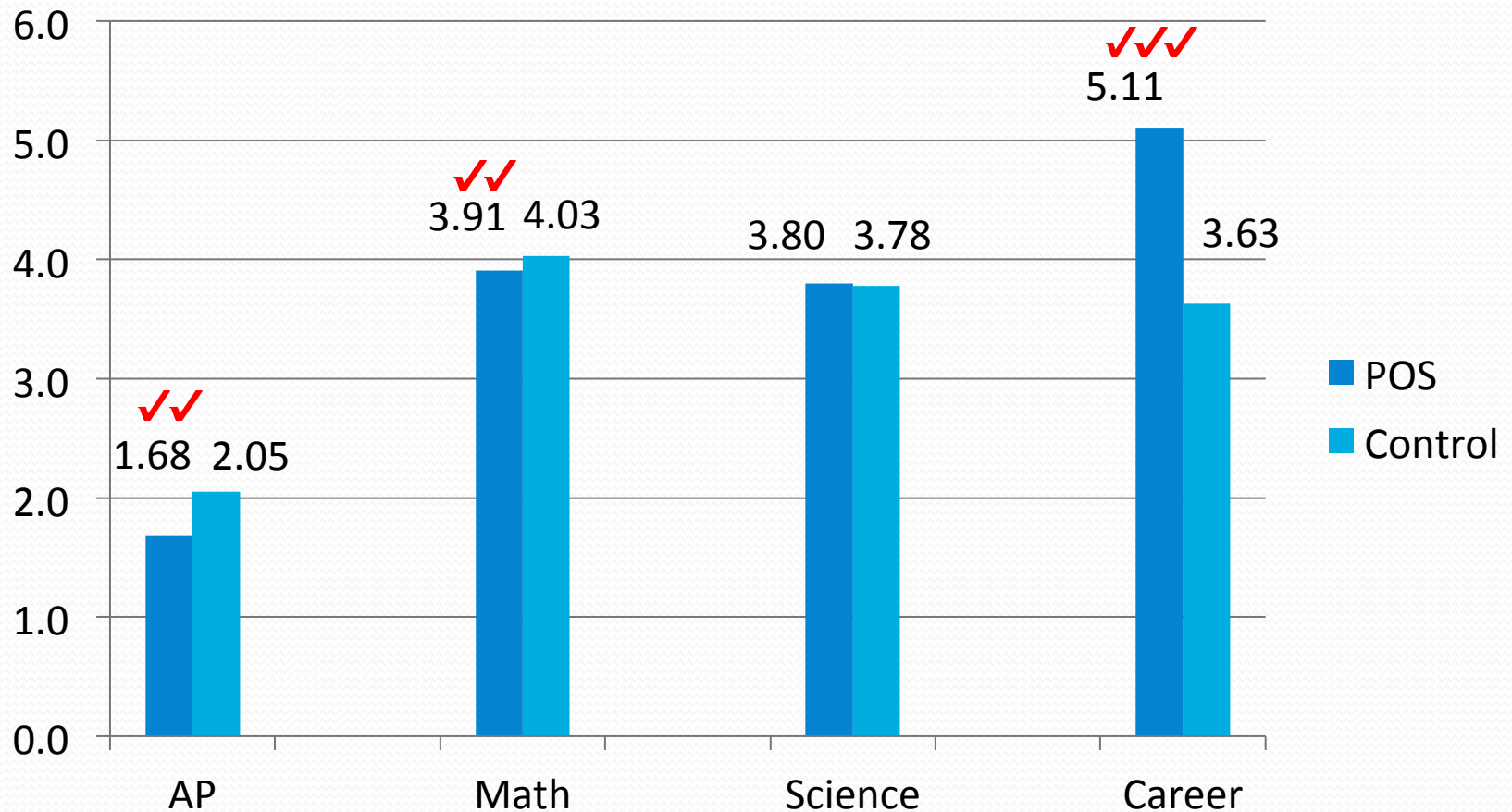
Method

- Quantitative analyses
 - Anonymized systems data collected from district
 - *T* tests, *chi*-squares, ANCOVA to date
 - Future: posthoc analyses by program, by at-risk student
- Qualitative analyses
 - Whether the programs are or are not POS based on interviews and course sequence analysis
 - Presence/absence of 10 components of Perkins policy guidance
 - Other themes from coding/data reduction (i.e., school culture, student lived experience)

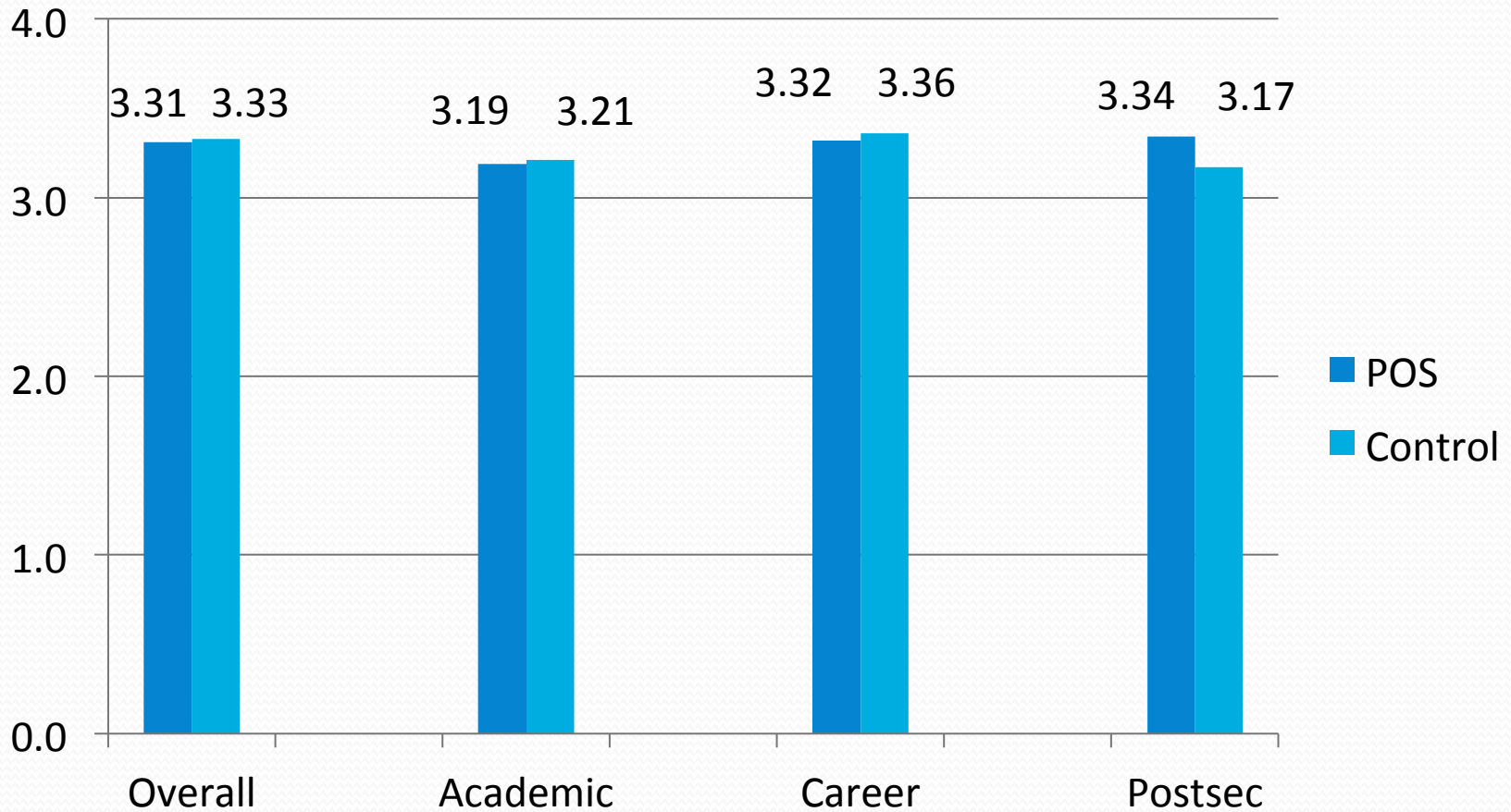
West District 10th Grade Test Scores



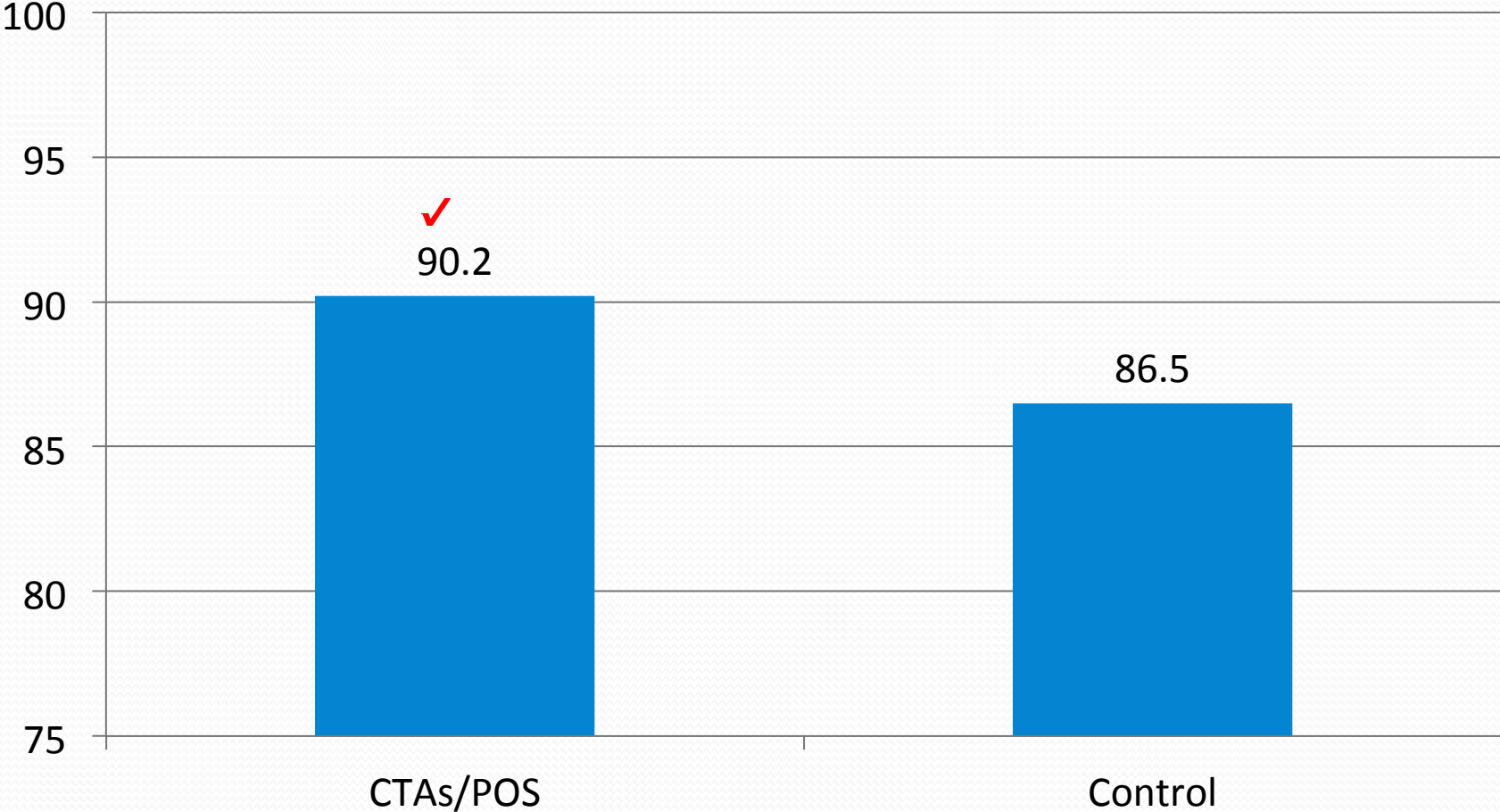
West District Credits Earned



West District Cumulative GPAs



Graduation Rates



Summary of Results

Measure	Favors CTAs?	Effect size Hedges's <i>g</i>
10 th grade reading exam	↑	0.09
10 th grade math exam	↑	0.11
10 th grade science exam	↑	0.10
AP credits earned	↓	-0.16
Math credits earned	↓	-0.14
Science credits earned	↔	0.03
Career credits earned	↑	0.49
Overall GPA	↔	-0.03
Academic GPA	↔	-0.04
Career GPA	↔	0.07
Postsecondary GPA	↔	0.16
Graduation rate	↑	1.43 (OR)

Notes on Effect Sizes (ES)

- ES let you know whether the differences in outcomes are educationally meaningful. Positive ES favor the POS.
- For 10th grade tests, none of the ES meet the ± 0.25 threshold, which makes sense because some POS don't start until 10th grade.
- No GPA ES meets the threshold either but POS students have lower CTE GPAs. This may be because they are taking a progressively more challenging CTE curriculum while the comparison students can take all intro courses in several areas.

More Notes on ES

- We found ES well above +0.25 for ‘career credits earned.’ It’s not surprising to learn that POS students earned more career credits than their nonPOS counterparts.
- Other credit categories showed few educationally meaningful differences between the groups. This is good news: it means that POS can be provided without harming student academic performance.
- Graduation rate ES are calculated differently, but that finding is also not educationally meaningful. Again this means POS is a value-added experience.

Comparing District Results with Study Results

- The district data are results for each school individually
- The study data combine the 3 treatment schools' results, and compare them to those of a specific set of students who could be attending any high school in the district (ie, those not selected by lottery)
- Not the most immediately useful comparison for any district trying to use data to improve practice

Recommendations

- Have relevant district personnel involved from the start—they may have research questions that can be added on
- District personnel and research team could collaborate to analyze results
- Research team should provide yearly updates
- Research team could put on workshops with findings to date and how they were computed
- Must be in research budget and schedule

Policy Implications

- CTA model effective in raising student academic achievement
- Blueprint of Federal re-authorization of Perkins Act highlights many of these schools successes:
 - High academic standards
 - Community partnerships
 - Postsecondary articulation
- District received a 2013 federal Innovation Grant based on these schools' successes focusing on STEM.
- Local industry partners support community schools
- 5-10 schools visit CCSD annually to study CTAs.

Contact Us

Report to be on the web by Summer 2013:

<http://www.nrccte.org>

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