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For ACTION _____

For Board Brief X

FROM: John L. Brown, Executive Director, Curriculum Design and Instructional Services

THROUGH: Alvin Crawley, Ed.D., Superintendent of Schools
Terri H. Mozingo, Ed.D., Chief Academic Officer

TO: The Honorable Karen Graf, Chair, and Members of the Alexandria City School Board

TOPIC: Research on Homework and Its Effects upon Student Achievement

INTRODUCTION:

During previous School Board discussions of policies related to elementary and secondary instructional assignments, Chairperson Karen Graf requested that a board brief be prepared on current research related to homework, positive and negative components of out-of-class assignments, and the effects of homework upon student achievement, engagement, and motivation. The following is a synthesis of current research on these topics.

I. A Meta-Analysis of Research on Homework:

- Robert J. Marzano (*Classroom Instruction That Works*), Jane D. Hill, and Kathleen M. Flynn (*Classroom Instruction That Works with English Language Learners*) conducted meta-analyses of educational research (a project that synthesized over 13,000 research studies) (2006).
- Their meta-analysis suggests that nine recurrent components are consistently correlated with high levels of student achievement, including the performance of schools with diverse student populations (i.e., a high incidence of ELL, students with disabilities, and socio-economically disadvantaged learners). These nine factors include the following:
 1. Setting clear objectives and providing sustained feedback
 2. Using non-linguistic representations to frame generalizations and abstract concepts
 3. The importance of cues, higher-order questions, and advance organizers
 4. The power of cooperative learning and flexible grouping
 5. Summarizing, paraphrasing, and note-taking (especially Cornell/three-column notes)
- **6. Homework and practice**
 7. Reinforcing student effort and providing recognition
 8. Generating and testing hypotheses
 9. Identifying similarities and differences
- According to Marzano, Hill, and Flynn, homework and practice have the sixth highest effect size upon student achievement, suggesting the value of out-of-class assignments when the following key criteria are present.
 1. Effective homework provides students with opportunities to practice, review, and apply knowledge in new and independent ways.
 2. Well-designed homework is an effective way to extend student learning beyond the school day.
 3. The amount of homework assigned to students should increase as they progress from elementary school through high school.
 4. Parental involvement in homework should be minimal, ensuring that students work and reason independently.
 5. The purpose of each homework assignment should be clearly identified and articulated.

6. Immediate feedback should be provided on homework assignments (including informal group debriefings to more formal feedback on such assignments as out-of-class writing).
- In its May 2013 report “Effective Homework Policies and Regulations,” Hanover Research states the following key findings about homework:
 1. Based upon research literature and district profiles, effective policies for the support of effective homework practices:
 - Limit the amount of homework assigned per night at each grade level.
 - Articulate acceptable functions for homework.
 - Use professional development and other venues to promote a culture that supports effective homework practices.
 - Provide time for teachers to plan homework schedules.
 - Avoid assigning homework over weekends and on holidays.
 2. Research indicates that both teacher beliefs and institutional culture impact the effectiveness of homework practices. It is important to involve teachers, staff, parents, and students in the development of homework policies and provide regular venues for discussion.
 3. Districts profiled in the Hanover Research summary on homework limit their district-level homework policies to general principles, leaving individual schools to define more detailed policies in consultation with teachers, students, and parents. According to Hanover, this pattern appears to be more pronounced in larger districts.
 4. Districts whose policies specifically designate responsibilities for homework practices tend to assign professional development, policy evaluation, and compliance efforts to the district administration:
 - School administrators may be tasked with specific roles such as helping ensure compliance, discussing the policy and effective practices with staff and the community, organizing venues for professional development and the discussion of the policy, and developing more specific school-wide policies in collaboration with staff and parents.
 - Teachers are responsible for developing and coordinating curriculum and homework in accordance with the district and school policies.
 5. Effective homework practices supported by the Hanover Research literature analysis include:
 - Scaffolding the daily duration of homework based on the student’s grade level.
 - Providing timely and formative feedback on student homework.
 - Designating homework assignments that support classroom learning.
 - Communicating the purpose of specific homework assignments to students in light of course objectives.

II. Research on the Positive Effects of Homework/Out-of-Class Assignments:

The body of educational research related to the effects of homework suggests that when designed, implemented, and assessed effectively (see above meta-analysis), homework can reinforce student learning and extend and refine student understanding:

- Practice-based homework can improve students’ retention and understanding of taught content (Collier, 2007).
- Effective homework has a strong correlation with student achievement (Collier, 2007).
- The practice of giving homework to students can improve retention and understanding of the taught content (Collier, 2007).
- According to the National Parent Teacher Association parent guide (*Helping Your Child Get the Most Out of Homework*): “Most educators agree that for children in grades K-12, homework is more effective when it does not exceed 10-20 minutes each day; older children in grades 3-5 can handle 30-60 minutes a day.”

- Kevin C. Costley of Arkansas Tech University (2013) suggests that well-designed homework (aligned with time limitations cited above) can: (1) Help students develop effective study habits; (2) Show students that learning can occur at home as well as at school; (3) Foster independent learning and responsible character traits; and (4) Give parents an opportunity to know what is being taught at school and monitor their child's progress.
- The Davidson Institute for Talent Development (2011) summarizes the following research conclusions about the correlation between homework and students' self-regulation skills: (1) At the elementary level, well designed and assessed homework can enhance students' self-efficacy, self-reflection, responsibility for learning, maintaining focus, managing the environment, inhabiting distractions, and managing time. (2) At middle and high school as well as college levels, studies showed a positive correlation between homework and a range of self-regulation skills, implying that effective homework facilitates the development of self-regulation skills and enhances learning.

III. Research on Potential Negative Effects of Homework:

A body of research also confirms that poorly designed and/or excessive amounts of homework can negatively impact student learning as well as psychological and physical health:

- According to Sandra Levy (*Healthline News*, 2014), students in high-achieving neighborhoods who spend too much time on homework have more health problems, stress, and alienation from society. Research cited in this article also emphasizes the need for homework to have a clearly articulated purpose and benefit specifically designed to cultivate learning and development
- Alfie Kohn, author of "The Homework Myth" (2012), states: "Even at the high school level, the research supporting homework hasn't been particularly persuasive. There does seem to be a correlation between homework and standardized test scores, but (a) it isn't strong, meaning that homework doesn't explain much of the variance in scores; (b) one prominent researcher, Timothy Keith, who did find a correlation, returned to the topic a decade later to enter more variables into the equation simultaneously, only to discover that the improved study showed that homework had no effect after all; and (c) at best we're talking about a correlation without having proved that doing more homework *causes* test scores to go up."

IMPACT:

As the summaries above suggest, educational researchers are divided on the long-term benefits of homework. However, the majority of researchers are aligned in their recommendations that effective homework:

- Has a clear and articulated purpose, with explicit alignment to the daily classwork and related learning goals of which it is an extension.
- Can reinforce students' memorization and retention of key concepts, vocabulary, and algorithms and deepen understanding through student elaboration and an increase in readiness for new content (i.e., information, academic vocabulary, and skills).
- Concentrates upon a limited number of concepts or skills so that learning is focused and targeted.
- Provides appropriate and timely feedback (i.e., helping students to know what was correct, what needs to be revised or modified, and what needs deeper investigation). Such feedback should be as immediate as possible, avoiding the diminishment of benefit if feedback is delayed.
- Reinforces students' independent practice and application of in-class concepts and skills, reducing and/or eliminating the need for excessive parent involvement or intervention.

RECOMMENDATIONS:

It is recommended that the School Board pass the policies for elementary and secondary instructional assignments since both are consistent in reflecting research-based best practices about the use of homework as a learning tool (including time recommendations for elementary students and the need for immediate feedback to ensure that homework is a genuine learning tool and catalyst).