

## **Key Benefits from properly-structured and properly-implemented Mentor-Assisted Enrichment Projects, carried out by Undergrads (for course credit) with Students in Grades 4-12**

**Based on 8 years of R&D undertaken by Dr. William A. Gray & Marilynne Miles Gray, MA, MEd**

**Student-proteges** (G/T; ESL; At-risk; Native; Other) in grades 4-12 benefit in multiple ways, such as:

- Learn how to plan and carry out a project – and create and give a Multi-Media PowerPoint presentation of what was done and learned.
- Learn to connect “knowing about” STEM concepts with “knowing how” they are applied in real world situations.
- Utilize higher-level thinking skills in each project (based on Bloom’s Cognitive Taxonomy).
- Learn how to take turns leading and following (being team members) within the project group.
- Learn how to interview and job shadow STEM professionals to learn about interesting STEM occupations.
- Learn how to give a public presentation to an audience to learn speaking skills and confidence.
- Complete something they start to gain a feeling of accomplishment (**parents** especially appreciate this).

**Undergraduate-mentors** benefit in multiple ways, such as: (**mentors can be future STEM teachers**)

- Learn to use 4 Mentoring Styles to equip and empower proteges.
- Learn project management by planning, carrying out, completing and presenting a MAEP with a group of proteges.
- Learn how to get protégés to see the Project as “theirs” so they will carry it out and complete it.
- Learn how to make MAEP activities so engaging that proteges will complete and present “their” MAEP.
- Learn how to utilize STEM professionals (too busy to be mentors) to motivate interest in STEM occupations.
- Learn how to get proteges ready to give a Multi-Media PowerPoint Presentation of their completed MAEP.
- Learn to identify and respond appropriately to individual differences in learners – which is foundational for becoming an **effective teacher** who ensures each student learns.
- Learn the characteristics and capabilities of different types of youth (G/T, ESL, At-risk, Native).
- Learn to communicate with teachers and parents so they support MAEPs.
- Over an 8-year period, none of my 300 undergrads (future teachers) dropped out of university while they carried out a MAEP (did not want to disappoint their proteges).
- “Subject-oriented” future high school teachers became more “student-oriented.”
- “Student-oriented” future elementary teachers became more “subject-oriented.”

**Faculty** benefit in multiple ways, such as:

- Learn how to structure a course assignment so all requirements will be met.
- Learn how to make course content more practically relevant.
- Get significantly higher course evaluations from mentors vs. other students.
- Can use the Multi-Media PowerPoint Presentations of completed MAEPs to enhance their own instruction.

**Teachers** benefit in multiple ways, such as:

- Learn how to work more cooperatively with faculty and mentors.
- Learn how to give students credit (external reinforcement) for meeting student-protege responsibilities.
- Can use the Multi-Media PowerPoint Presentations of completed MAEPs to enhance their own instruction.
- Class size will decrease while proteges are meeting with mentors, so teachers have time to assist other students.
- **Parents** appreciate teachers more because their children benefit in multiple ways from completing a MAEP.

**Schools and universities/colleges** benefit in multiple ways, such as:

- Learn how to work together more cooperatively – on projects and associated research.
- Because many MAEP activities occur on university/college campuses, this recruits proteges to attend there.
- Enhance curriculum and instruction by using the Multi-Media PowerPoint presentations of completed MAEPs.