



**WACO ISD EDUCATION FOUNDATION
COVER SHEET – PART II
Application for Grant:
2025-2026 Funding Cycle**

Assigned Grant Proposal #: _____

Project Title: _____

Grade Level(s): _____ **# of Students DIRECTLY involved:** _____

Subject Area(s): _____

Amount Requested: \$ _____

Grant Focus Area(s): In order to be considered, Waco Education Foundation Innovation Grant proposals must fall under one or more of the E4 focus areas: early childhood development, enhanced programming for advanced students, extended education for staff, and emphasis on student performance. NOTE: In addition to meeting one of the E4 focus areas above, grant readers are especially interested in creative and innovative grant requests that target fine arts, STEM, literacy, or enrichment.

(check all that apply)

Early Childhood Development

Enhanced Programming for Advanced Students

Fine Arts

Literacy

Extended Education for Staff

Emphasis on Student Performance

STEM

Enrichment

3D Printing Our Future, Proposal 14

Project Description:

This project aims to integrate 3D printing technology into the curriculum to enhance STEM education. By providing students with hands-on experience in design, engineering, and problem-solving, 3D printing will foster creativity and critical thinking. This initiative will support project-based learning, allowing students to conceptualize, design, and produce tangible models that reinforce classroom concepts. The implementation of 3D printers will empower students with 21st-century skills, preparing them for future academic and career opportunities in STEM fields.

Rationale:

This project aligns with the Waco Education Foundation's focus on creative classroom projects and district initiatives by introducing an innovative tool for interactive learning. It supports the Campus Improvement Plan by enhancing STEM instruction and engagement, particularly for bilingual and Title I students who benefit from hands-on learning experiences. The integration of 3D printing will bridge the gap between theoretical knowledge and practical application, providing students with meaningful learning opportunities that promote engagement and retention.

Goals:

- **Increase student engagement in STEM subjects** by at least 25% as measured by student surveys and classroom participation data.
- **Develop students' problem-solving and critical thinking skills** through at least three 3D printing-based projects per grade level.
- **Enhance cross-curricular connections** by incorporating 3D printing into at least four different subject areas beyond STEM.
- **Provide teachers with innovative instructional strategies** by training 100% of STEM teachers in the use of 3D printing technology.
- **Foster collaboration and creativity** by having students complete at least one group-based 3D printing project per semester.

Plan of Operation:

- **Phase 1 (August-September 2025):** Purchase and install 3D printers, provide teacher training.
- **Phase 2 (October-December 2025):** Implement classroom projects integrating 3D printing in STEM lessons.
- **Phase 3 (January-May 2026):** Expand usage to interdisciplinary projects, including social studies and art.
- **Phase 4 (June 2026):** Evaluate project impact and plan for sustainability.

During this time, it will also be crucial to do the following;

- Host family engagement nights to showcase student projects.
- Collaborate with local businesses and higher education institutions for mentorship opportunities.
- Involve parents in workshops demonstrating 3D printing applications.

Communication & Dissemination:

- Invite the Waco Education Foundation to observe student projects, classroom activities, and showcase events.
- Share project progress through school newsletters, social media platforms, and WISD-TV segments featuring student work and teacher testimonials.
- Present project outcomes at district meetings, school board sessions, and professional development workshops to advocate for wider adoption of 3D printing.
- Develop and distribute a detailed implementation guide, including best practices and lesson integration strategies, to support replication at other schools within the district.
- Establish a dedicated project webpage on the school's website, providing updates, student showcases, and downloadable lesson plans for educators.

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Evaluation:

- **Track student participation and engagement** through teacher observations and student feedback, with a goal of at least 80% student engagement in STEM projects using 3D printing.
- **Assess student learning outcomes** via project-based assessments and STEM proficiency evaluations, aiming for a 15% increase in STEM-related test scores.
- **Collect teacher feedback** through post-training surveys and instructional reflections, with at least 90% of trained teachers reporting increased confidence in integrating 3D printing into lessons.
- **Compare pre- and post-implementation STEM performance data** to measure improvement in student comprehension and application of STEM concepts.
- **Monitor cross-curricular integration** by tracking the number of subject areas incorporating 3D printing, aiming for at least four non-STEM subjects using 3D printing in instructional activities.

Long Term Implications:

- Establish a sustainable 3D printing curriculum that remains a permanent component of STEM education at the school.
- Secure additional funding and partnerships for ongoing maintenance, expansion, and procurement of advanced 3D printing materials.
- Develop a student-led 3D printing club to encourage continued learning, innovation, and peer collaboration beyond classroom activities.
- Expand access to 3D printing resources for other WISD schools through shared initiatives, professional development opportunities, and inter-campus collaboration

Key Personnel:

- **Program Coordinator:**
 - o **Responsibilities:** Oversees the purchase, distribution, and training of staff to ensure the smooth implementation of the project. Monitors progress and provides ongoing support to staff in using the 3D printers. Organizes professional development sessions and gathers feedback from staff and parents.
 - o **Qualifications:** Master's in Bilingual & ESL Education and currently pursuing a Ph.D. in Special Education. Extensive experience in bilingual education, project management, and staff training. Skilled in implementing educational initiatives, tracking outcomes, and providing professional development opportunities.
- **STEM Teachers and Staff:**
 - o **Responsibilities:** Integrate 3D printing into classroom instruction, provide students with hands-on learning opportunities, and assess student projects. Offer feedback on the effectiveness of 3D printing technology in achieving learning objectives.
 - o **Qualifications:** Certified educators with experience in STEM instruction and hands-on learning methodologies. Strong knowledge of curriculum development, project-based learning strategies, and classroom technology integration.
- **Technology Specialist:**
 - o **Responsibilities:** Provides technical support, ensures proper maintenance of 3D printers, and conducts professional development sessions for teachers. Assists in troubleshooting and optimizing printer usage for classroom projects.
 - o **Qualifications:** Certified technology specialist with experience in educational technology implementation. Expertise in troubleshooting hardware and software issues and training educators in technology integration.
- **Community Partners:**
 - o **Responsibilities:** Assist in promoting the project, help engage parents, and provide mentorship opportunities. Support the school in creating stronger connections with STEM industries and higher education institutions.
 - o **Qualifications:** Established professionals in STEM fields with a strong understanding of the importance of technology in education. Experience in community outreach, mentorship, and supporting educational initiatives.

8. Budget and Budget Narrative/Justification:

Technology Equipment: Makerbot Sketch Classroom (Two Printer Setup)

- **Amount Requested:** \$2,311.75

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To enhance the learning experience and provide hands-on STEM opportunities for students, we are requesting funding for the Makerbot Sketch Classroom, which includes two 3D printers. These 3D printers will be instrumental in bringing project-based learning to life in our classrooms, allowing students to engage in creative problem-solving, design, and innovation. As an elementary school with a majority of bilingual students, the integration of technology is especially important in supporting students' language development, visual learning, and hands-on engagement. The Makerbot Sketch Classroom will allow teachers to integrate 3D printing into their lessons across various subjects, including math, science, and art. This technology will foster collaborative learning, critical thinking, and adaptability—skills essential for students' success in an increasingly digital world. The two 3D printers in the Makerbot Sketch Classroom setup are specifically chosen for their user-friendly interface, which makes them suitable for students at the elementary level. The simplicity of the design process, paired with the ability to create physical models, will enhance student understanding of abstract concepts by making them tangible. Additionally, students will have the opportunity to build their communication and teamwork skills as they collaborate on projects. These 3D printers will support efforts in promoting a deeper engagement with technology, preparing students for future educational challenges. The investment in this equipment aligns with our commitment to providing innovative educational experiences that cater to diverse learning styles and encourage creativity among all students. With the requested funding of \$2,311.75, we will be able to implement this cutting-edge technology, providing the necessary tools to foster creativity and critical thinking in our young learners.

Waco Education Foundation

Grant Budget Form

Assigned Proposal #	14
Project Title:	3D Printing Our Future
Number of Students Served by Grant:	390

Qty	Budget Item	Verify Vendor (Y or N)	\$ Requested from the WISD Foundation	Other Secured Source	\$ from Other Source (if applicable)	Total Amount
Consumable Supplies						
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
total Consumable Supplies			\$ -		\$ -	\$ -
Technology						
1	Makerbot Sketch Classroom (Two Printer Setup)	Y	\$ 2,311.75	0	\$ -	\$ 2,311.75
						\$ -
total Technology			\$ 2,311.75		\$ -	\$ 2,311.75
Long-Term Supplies / Equipment (items that will last beyond the grant year)						
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
total Long-Term Supplies			\$ -		\$ -	\$ -

Contracted Services						
						\$ -
						\$ -
total Contracted Services			\$ -		\$ -	\$ -
Personnel						
						\$ -
						\$ -
total Personnel			\$ -		\$ -	\$ -
Travel / Other						
						\$ -
						\$ -
						\$ -
						\$ -
total Other			\$ -		\$ -	\$ -
Totals		Total Requested from the WISD Foundation	Foundation Cost Per Student	Total from Other Sources	Total Cost of Project	
		\$ 2,311.75	5.927564103	\$ -	\$ 2,311.75	