

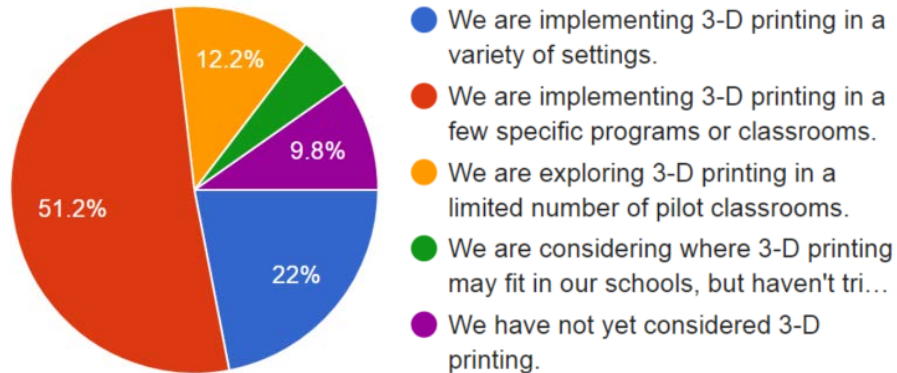
3-D Printing Survey Results

Number of individuals that responded to this statewide survey: 41

January, 2017

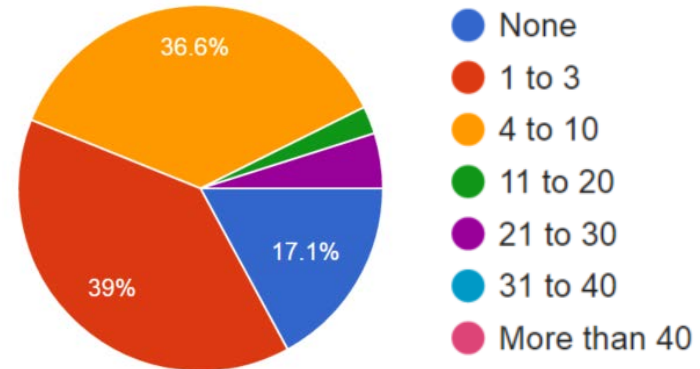
1. What is the current level of interest in 3-D printing in your district?

Summary: 84% of districts that responded have placed 3D printers in classrooms.

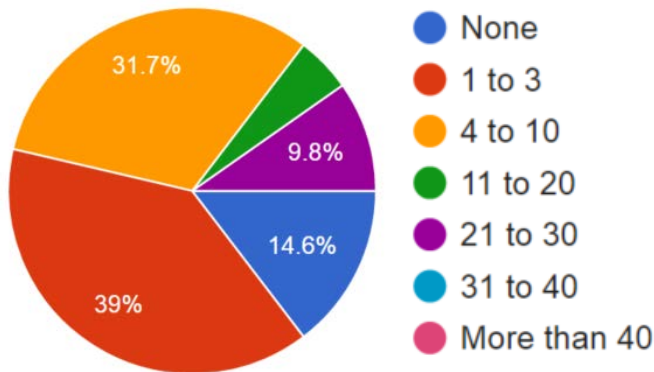


3. How many 3-D printers do you plan to deploy in the next two years?

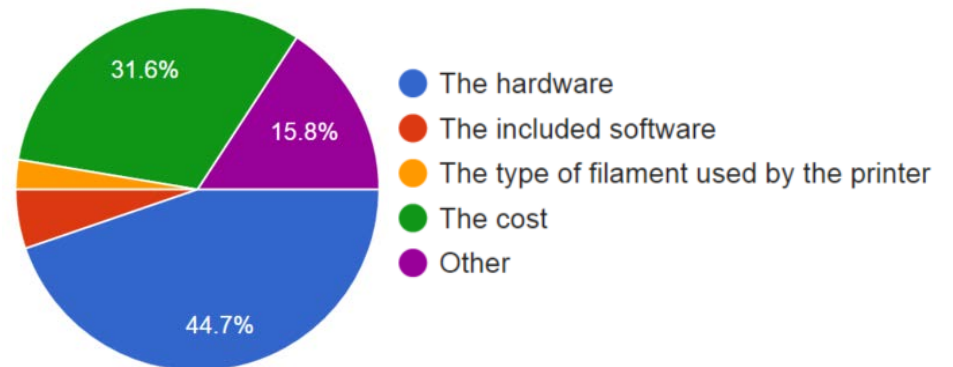
Summary: 83% of districts that responded plan to deploy 3D printers in the next two years.



2. How many 3-D printers are in your district?



4. When selecting a 3-D printer, which of the following components is the KEY factor in your selection?



5. What are your primary requirements (specs) for a 3-D printer?

The first column displays the number of instances for that response.

- 10Ongoing cost (9) and initial cost (1)
- 8Software considerations
- 8Ease of use for students and teachers
- 6Durability for student use
- 6Support (service / online support / phone support)
- 5The printing process (on-board, quiet, speed, size of build plate)
- 4Filament considerations
- 5Works with current technology and network
- 3Fit with curriculum (or Project Lead the Way requirements)
- 3Reliability / non-jamming / non-clogging
- 3Fit with curriculum (or Project Lead the Way requirements)
- 3Print quality / resolution
- 3Maintenance (time, parts, repair, availability of parts)

6. Where are your 3-D printers currently placed?

The first column represents the percentage of participants that selected that response. Survey participants were allowed to select multiple responses.

- 84%CTE classrooms
- 57%STEM classrooms
- 30%Makerspaces
- 19%Computer labs
- 16%Other (art classrooms, clubs, etc.)
- 11%Library/Media centers
- 8%.....Regular classrooms
- 5%.....Alternative ed classrooms

7. What kind of instructional planning and preparation goes into the adoption of 3-D printers in your schools?

The first column displays the number of instances for that response.

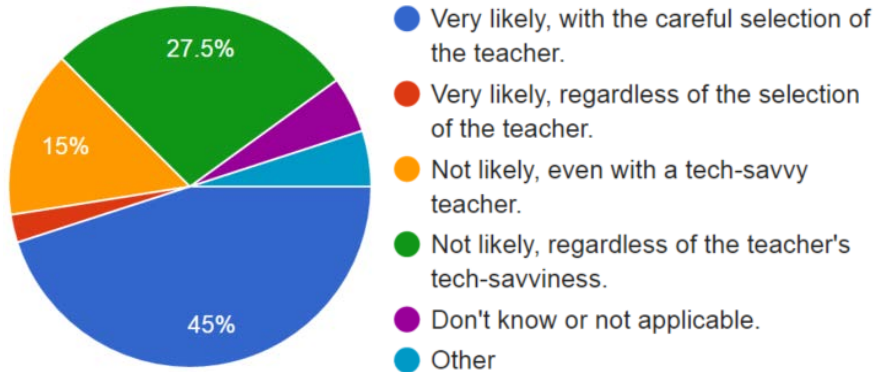
- 12Tied to curriculum or instruction
- 7 Tied to CTE course requirements
- 3 None / ad hoc / random
- 2 Staff recommendations
- 1 Meets needs of clubs and after-school activities
- 1 Technical requirements

8. What types of funds are currently used (or might be used in the future) for the ongoing purchases of the filament?

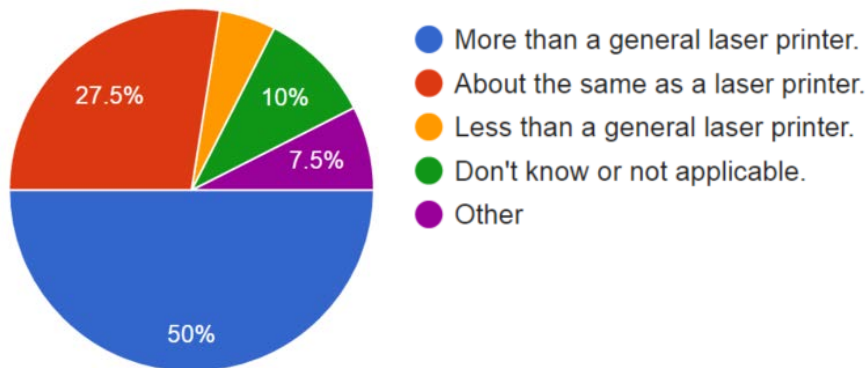
The first column displays the number of instances for that response.

- 21CTE
- 7 Capital / General / Federal / Grant / Donations / Personal
- 2 Curriculum / STEM
- 2 Technology Budget
- 2 Building / Department
- 1 Library / Media Center

9. Based on your experience, what is the likelihood that a teacher would incorporate the use of a 3-D printer into their learning activities without professional development?



10. Based on your experience, how much technical support is needed for 3-D printers?



11. Based on your experience, what recommendations or suggestions would you have for other districts who are considering the adoption of 3-D printers in their schools?

The first column displays the number of instances for that response.

- 7 Do your research / test several models / talk to others
- 6 Consider the printer's end use and the demand on the printer
- 5 Commit to professional development for the teacher
- 4 Consider alignment to curriculum
- 3 Consider ongoing costs of consumables
- 3 Get the best quality you can afford
- 3 Get a good service agreement with your printer
- 2 Consider the filament. Be aware of hazardous outgassing of ABS and other filaments. Only use PLA filament in a non-vented classroom.
- 1 Consider the software
- 1 Focus on a brand that provides service and teacher support
- 1 Identify a designated caretaker
- 1 Get more than one brand of hardware and software to broaden the students' experiences
- 1 Draw upon expertise of CTE

12. Based on your experience, what make/model of 3-D printer would you recommend? Why?

The first column displays the number of instances for that response.

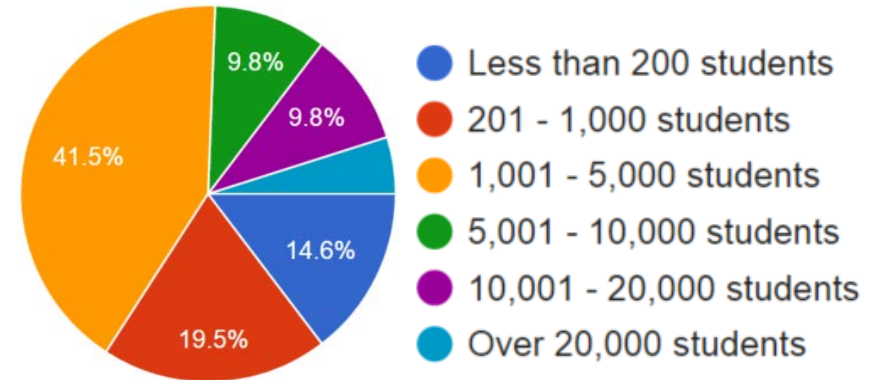
- 9 Makerbot – inexpensive to operate / more instructional resources for teachers / multi-platform for PC's and Macs
- 2 Dremmel – for pre-engineering and engineering classes
- 2 Stratys Mojo – easy to use / dependable / but small
- 1 Lulzbot Taz 6 - good quality / huge print area
- 1 Flash Forge Creator Pro – reliable / fixable / easy to use / quiet / great print quality / less than \$1,000
- 1 Afinia – scaled back / effective with students / durable for transporting
- 1 Luzbot Mini – easy to use software / works well with several CAD programs / good for many age groups
- 1 Makergear M2
- 1 Ultimaker
- 1 Can't recommend just one

Additional remarks:

- 3 Not Makerbot – not a good product / needs frequent repair / high failure rate with no solution from company

ABOUT THE RESPONDENTS

13. What is the size of your district?



14. In which ESD does your district reside?

