3D PRINTING IN EDUCATION

2016 REPORT CARD

SURVEY RESULTS – FULL REPORT

YSOFT

Executive summary

As the purchase price of 3D printers has declined, educators have been quick to bring the technology into the classroom. As a stand-alone device, 3D printing offers many benefits for students and educators alike: increased motivation and interest in the subject matter, particularly within STEAM subjects, ability to use creativity in teaching and learning and gaining skills needed for the modern workplace.

However, the study also showed that educators are struggling with three key areas:

- Managing and controlling access. Therefore access to the printers are restricted defeating the purpose of student motivation, creativity and skills
- Managing costs and justifying ROI
- Incorporating 3D printing projects into classroom curriculum

An opportunity exists for a comprehensive solution – a 3D printer combined with a print management and accounting systems – solutions that exist today for 2D paper printers. Additionally, the 3D printing and education industries must work together to provide educators with sets of clearly defined 3D curriculum, particularly in STEAM subjects.

About this report

In November 2016, Y Soft commissioned an independent research company, Dimensional Research, to conduct a survey to better understand how 3D printers are being used by educators in the classroom. Dimension Research has provided Y Soft with the results which are represented in this report. This report contains the survey questions and the aggregated results.

More information about survey participants can be found in the Demographics section.

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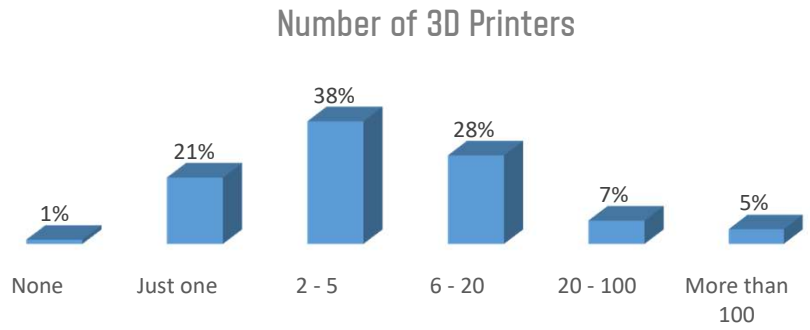
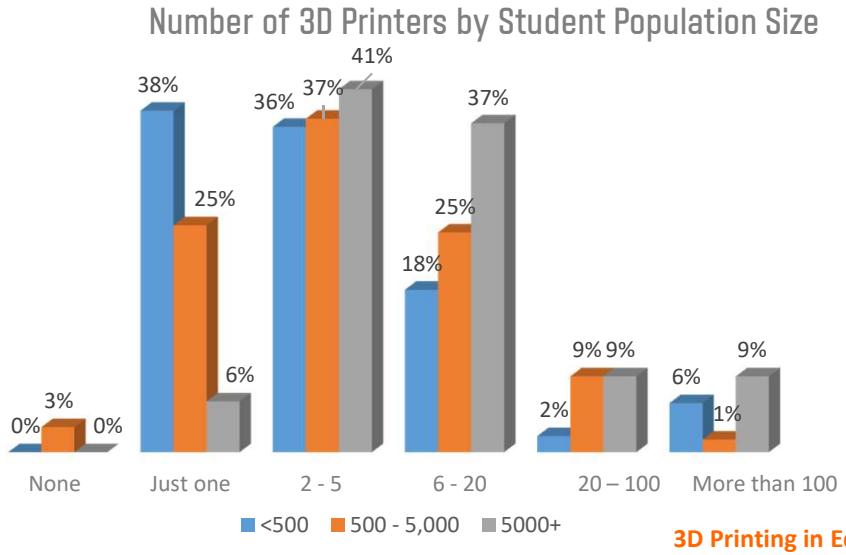
Student Access to 3D Printers

Q. Approximately how many 3D printers does your educational institution own? Choose the answer that most closely applies.

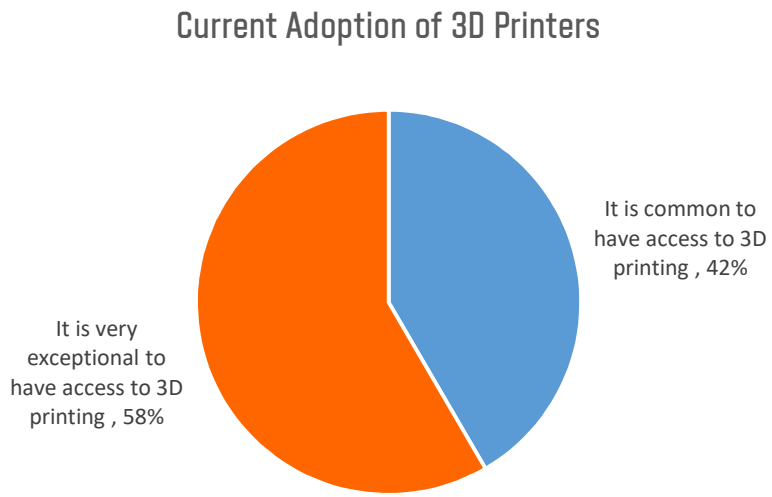




n = more than 300 technology professionals responsible for 3D printers in educational institutions

Student Access to 3D Printers

Q. How would you characterize the adoption of 3D printing in your educational organization? Choose the answer that most closely applies.



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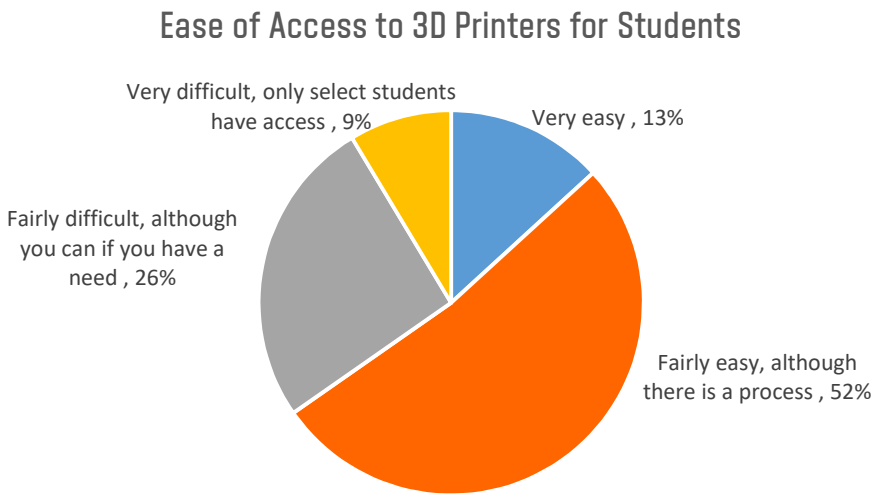
Student Access to 3D Printers

Q. How easy is it for individual students to access 3D printing services at your organization?



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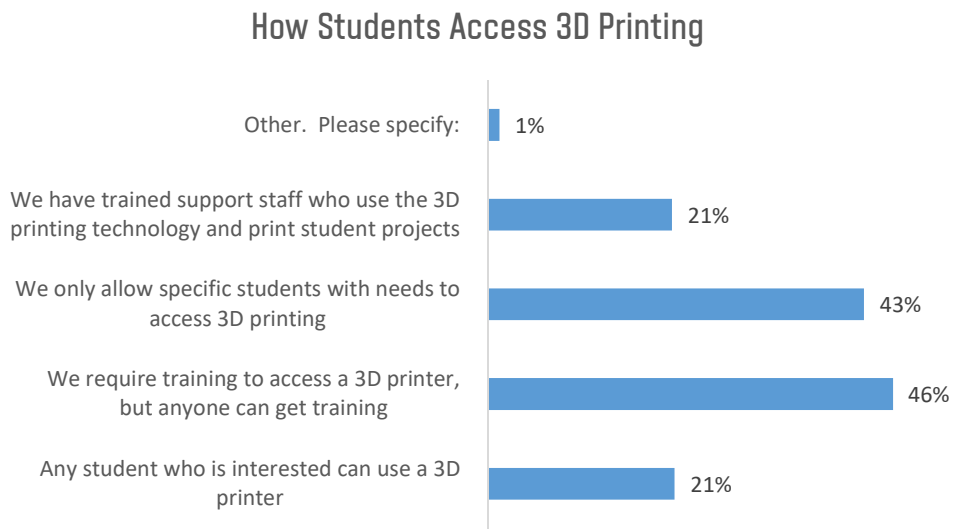
Student Access to 3D Printers

Q. How do students access 3D print services at your organization? Choose all that apply.

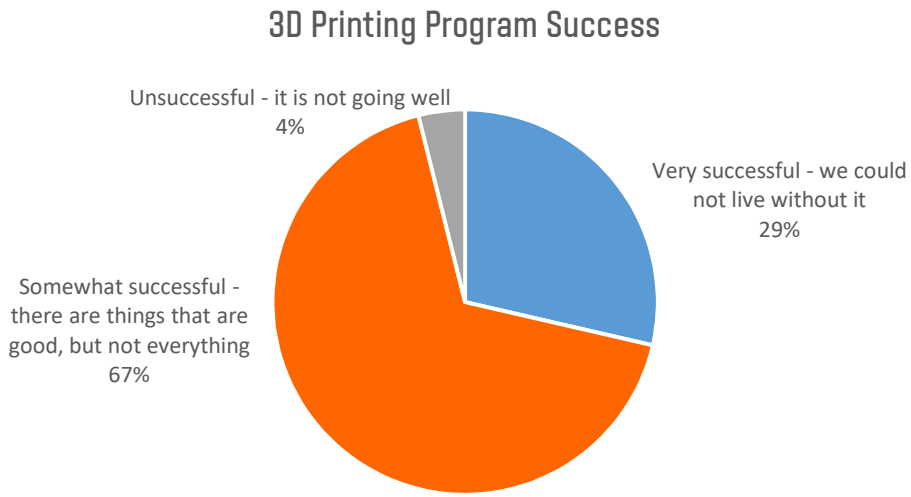


n = more than 300 technology professionals responsible for 3D printers in educational institutions

Other:
Every tech studies student gets training and every student takes this subject at least once.
In the senior school, one of the IT classes used the 3D printer with other classes through joint projects.
Individual teacher discretion.

Success, Forecast, Purchase Considerations

Q. In general, how would you describe the success of 3D printing in your educational institution? Choose the answer that most closely applies.



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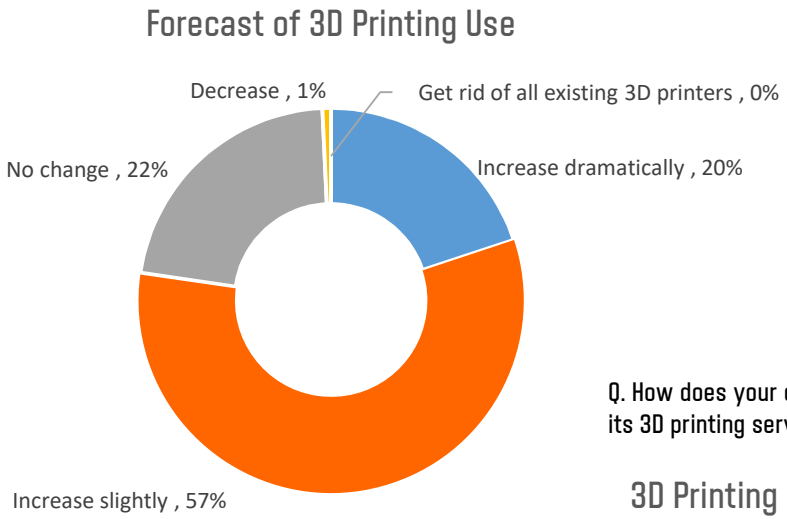
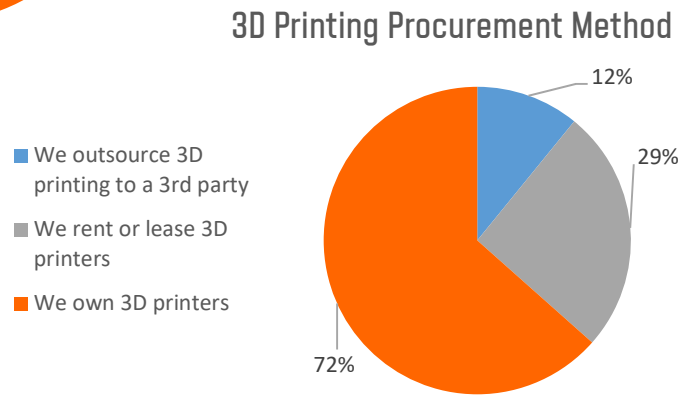
Success, Forecast, Purchase Considerations

Q. How does your educational institution plan to expand the use of 3D printing in the coming year? Choose the answer that most closely applies.



Q. How does your educational institution procure its 3D printing services. Choose all that apply.



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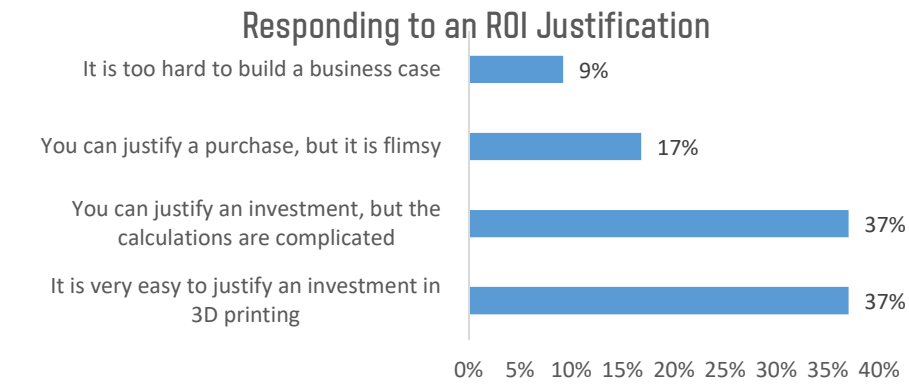
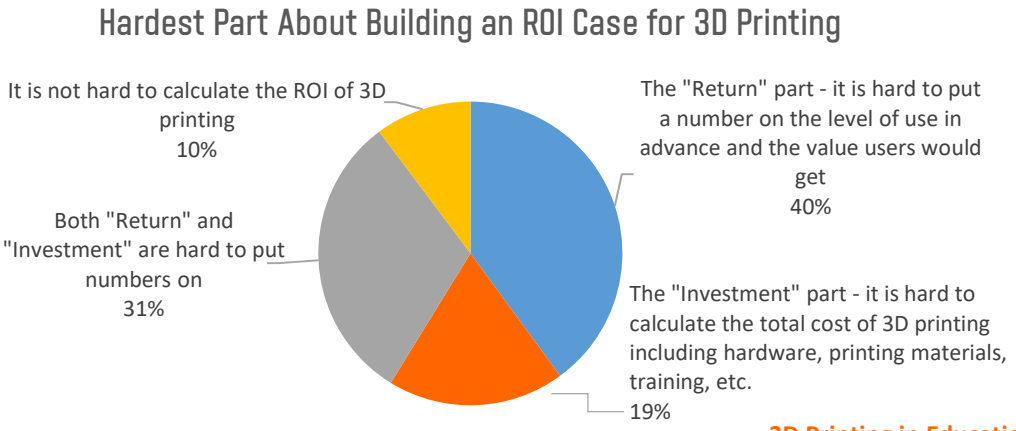
Success, Forecast, Purchase Considerations

Q. If you were asked to justify an investment in 3D printing, what would be your gut response? Choose the answer that most closely applies.



Q. What would be the hardest part in building an ROI case for 3D printing? Choose the answer that most closely applies.



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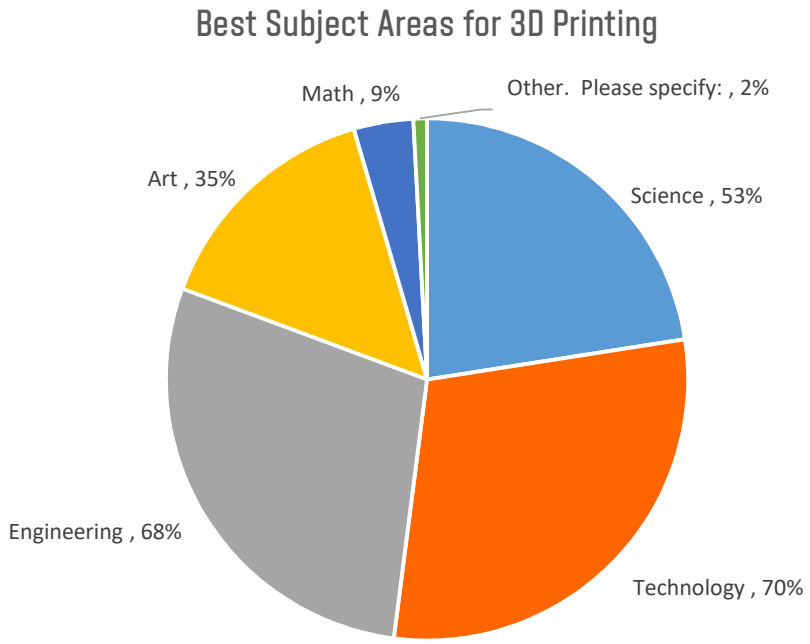
Education Subject Matter

Q. In your opinion, what areas offer the best value for 3D printing?
Choose up to 3 of the following.



Other:
Education, Medical, Medicine, Design, Prototyping

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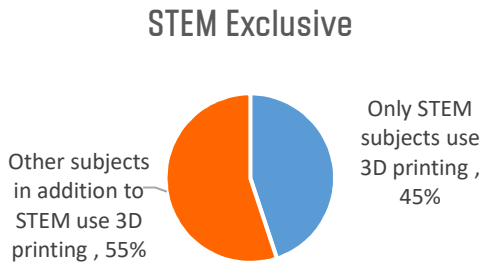
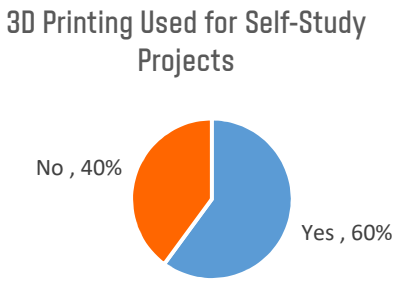
Education Subject Matter

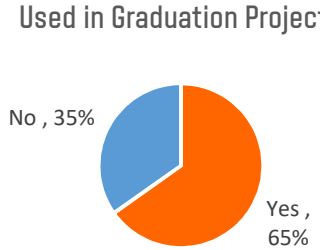
Q. In your educational institution, is 3D printing only used for STEM subjects?
(STEM = Science, Technology, Engineering, Math)



Q. In your educational institution, is 3D printing used in self-study projects?



Q. In your educational institution, is 3D printing used for graduation projects?



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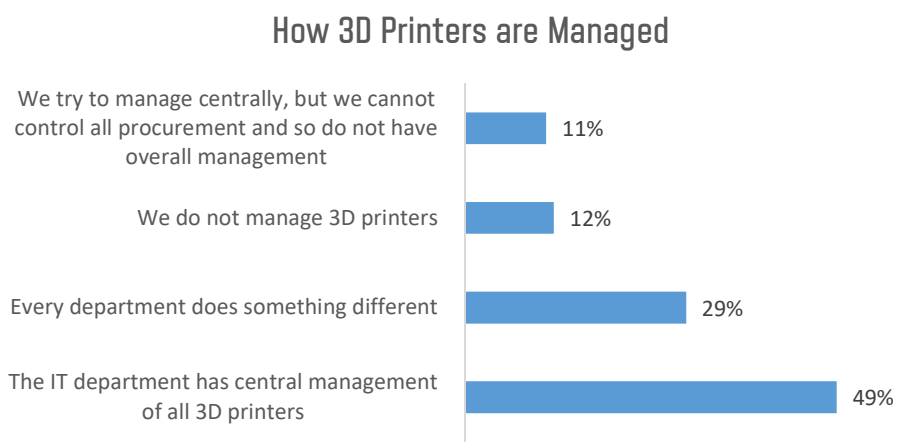
Managing 3D Printers

Q. How are 3D printers managed (responsibility for allocation, maintenance and access governance) at your educational institution? Choose the one answer that most closely applies.



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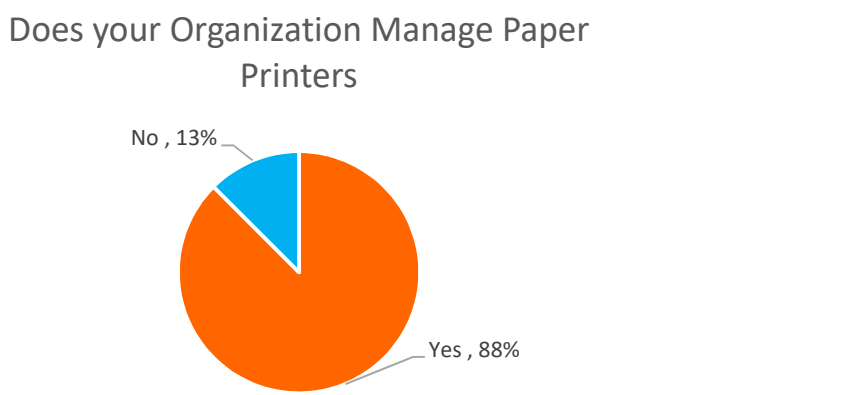
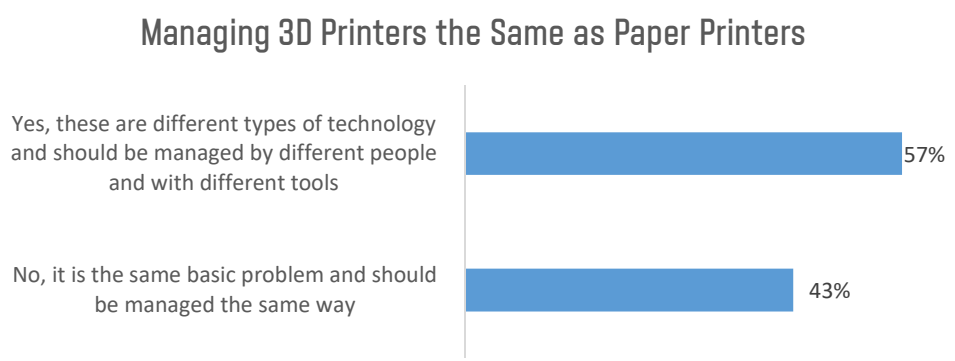
Managing 3D Printers

Q. Does your organization manage (has a person responsible for allocating maintaining and controlling access) for traditional, paper printers?



Q. In your opinion, should 3D printers be managed differently than traditional, paper printers or copiers?



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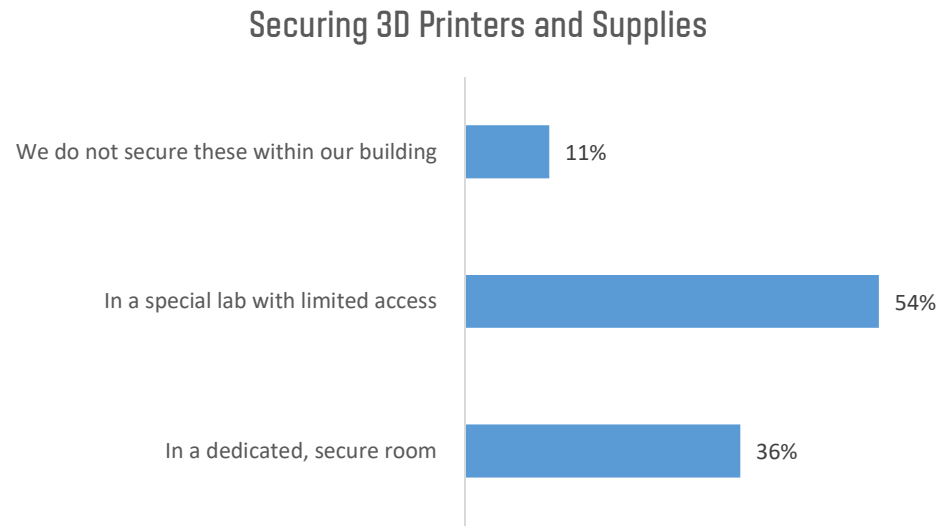
Managing 3D Printers

Q. How do you secure your 3D printers and supplies?



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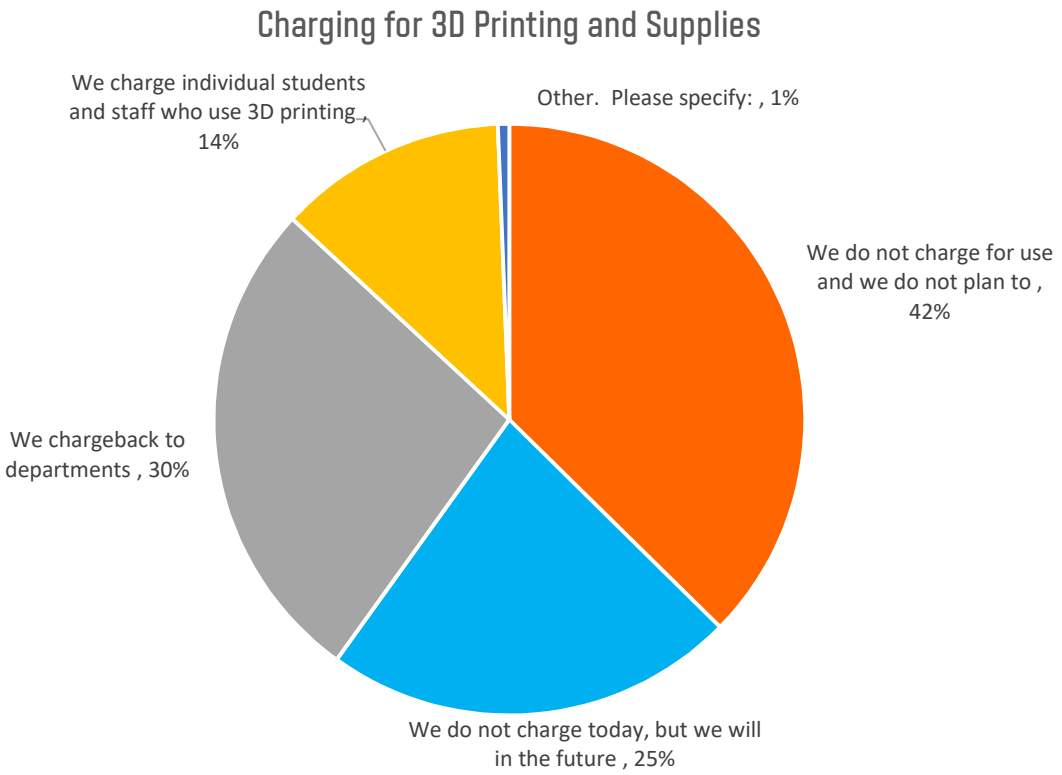
Q. How do you charge users for 3D printing services and supplies. Choose all that apply.



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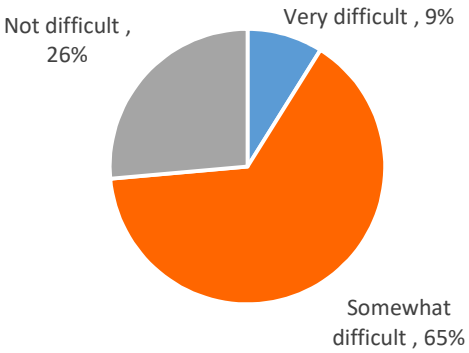
Other:
Fee is part of the class registration
Individual teachers purchase their own supplies

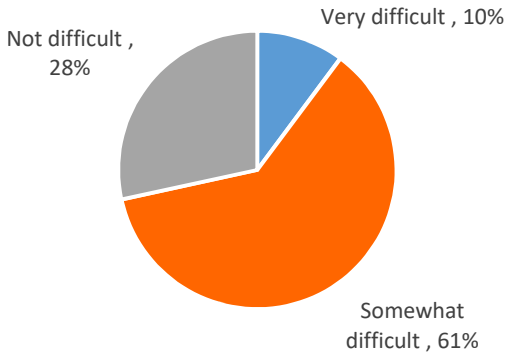
Ease of Use

Q. In your opinion, how difficult are 3D printers for TEACHING STAFF to use?
Q. In your opinion, how difficult are 3D printers for STUDENTS to use?

Ease of Use - Teaching Staff



Ease of Use - Students



Q. Do teaching staffing personally use 3D printers?

Yes, frequently	24%
Yes, occasionally	66%
No	10%

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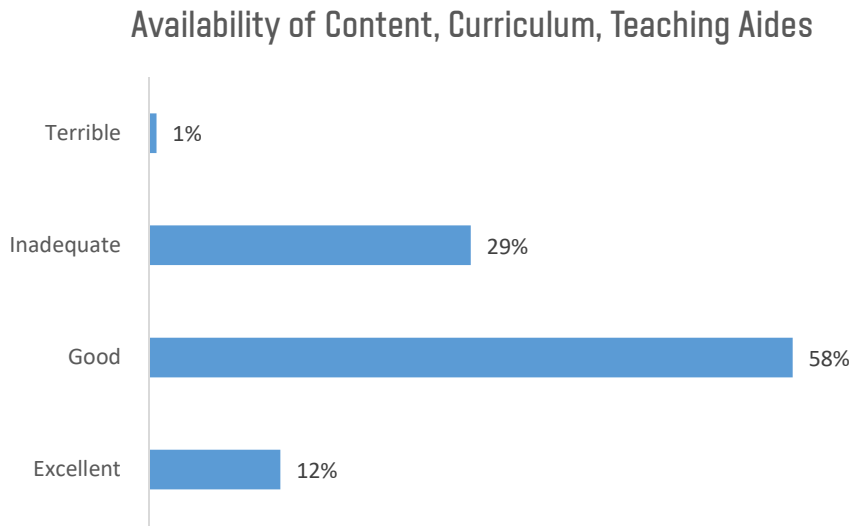
Ease of Use

Q. How would you characterize the availability of content, curriculum and teaching aids for using 3D printers as an educational tool?



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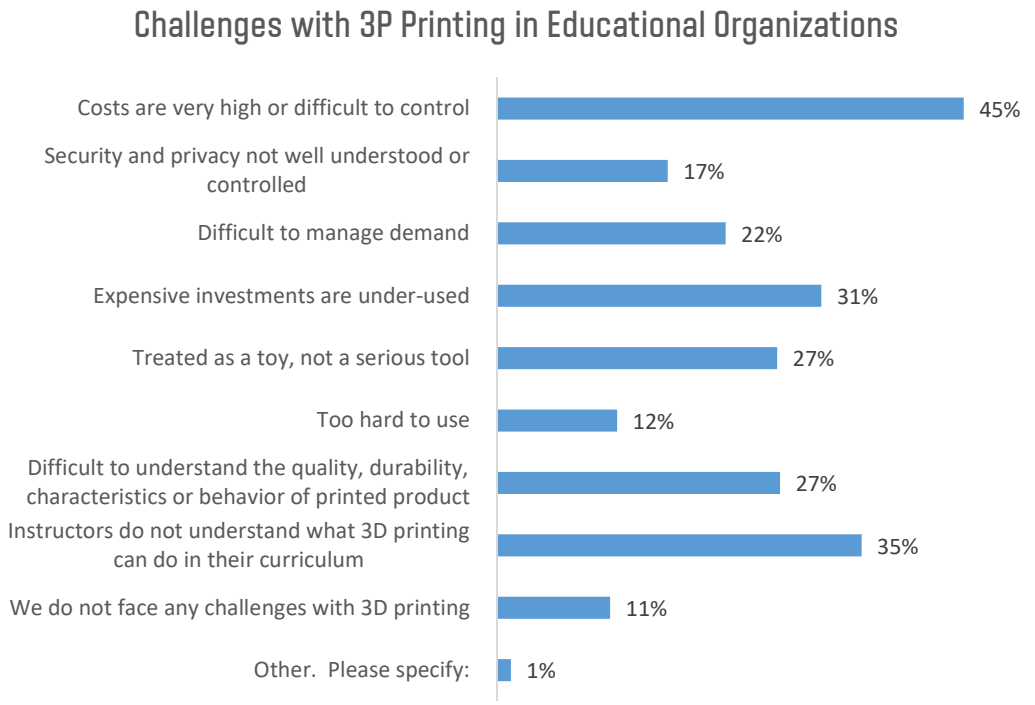
Challenges

Q. Do you face any challenges with 3D printing in your educational organization? Choose all that apply.



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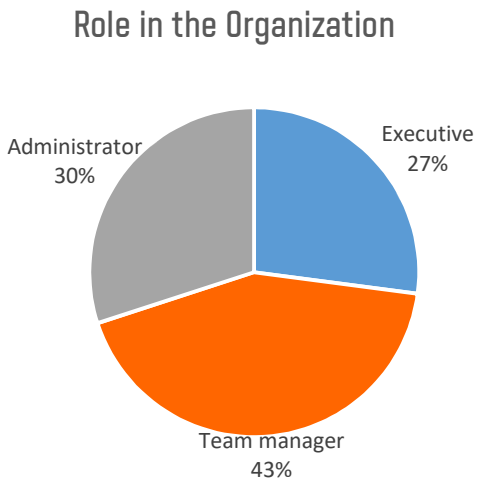
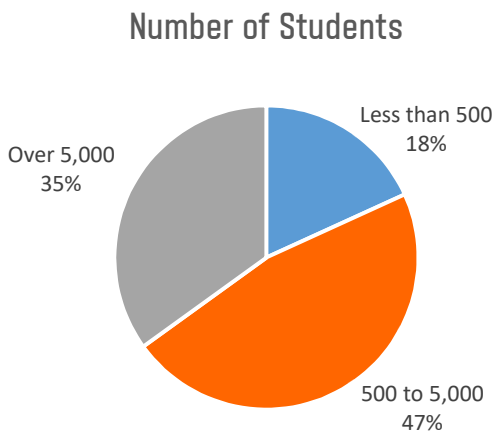
Other:
Humidity affecting printer effectiveness
Managing training load
Media hype leading to unrealistic expectations

Demographics

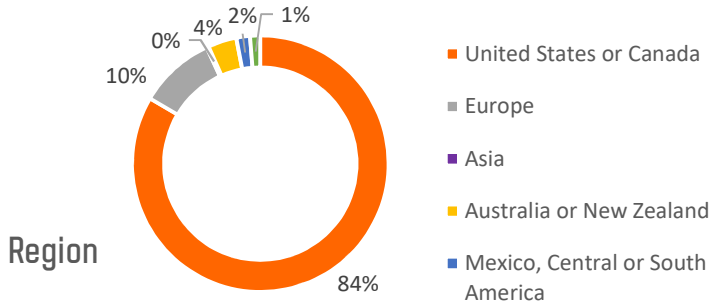
Q. What is your main role in the organization's technology? Choose the answer that most closely applies.

Q. Approximately how many students attend your educational institution?





Q. Where do you live? Choose the answer that most closely applies.



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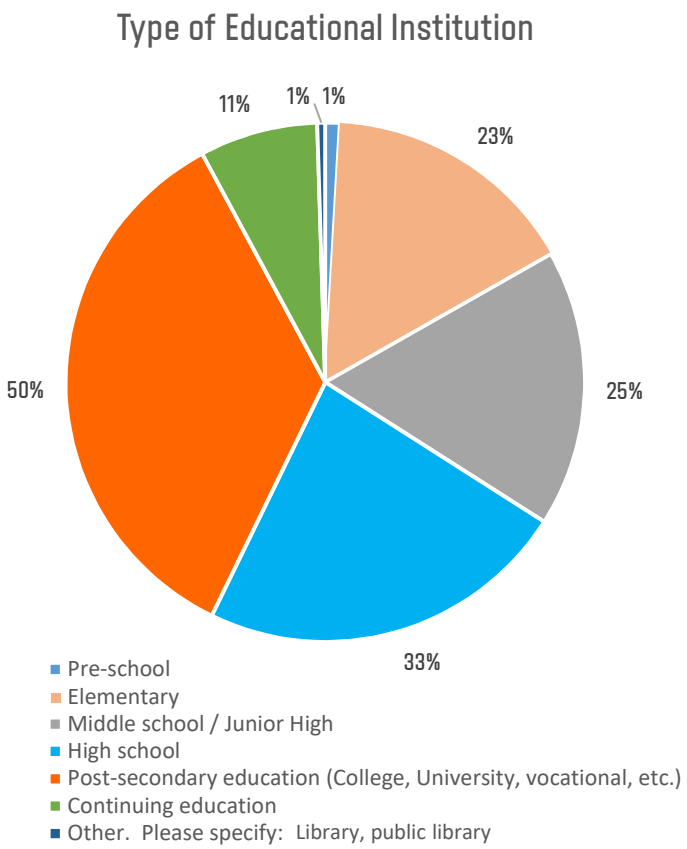
Demographics

Q. What type of educational institution do you work at?



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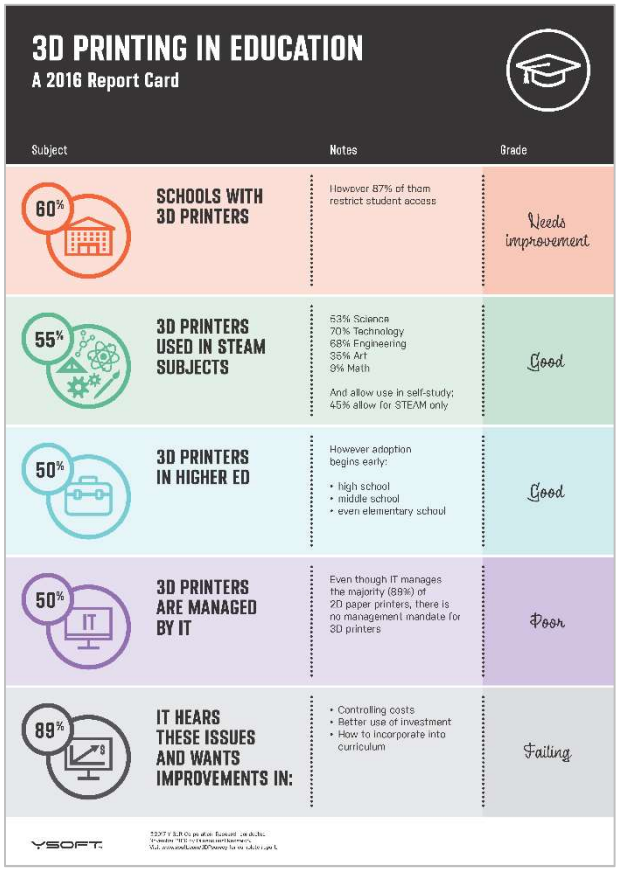
Survey Infographic: 3D Printing in Education – A 2016 Report Card



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To download a printable, high resolution version of this infographic, please visit www.ysoft.com/3DPsurvey

YSoft be3D eDee - Print management solution for Education

YSoft be3D eDee is a 3D printer integrated with print management and accounting system.

- Integrated print management provides students unlimited badge access to all 3D printers on campus.
- Door lock/unlock tied to student/faculty ID badges.
- Accounting system estimates time/material and facilitates student accounts, charging.
- Reports provide school with fact-based usage and cost data.

Visit www.ysoft.com/eDee for additional information.

Additional Resources

3D Printers in Education – A One Year Field Test

- https://www.ysoft.com/en/blog/be3d/using-3d-printers-in-education-a-one-year-field

IDC Flash report on YSoft be3D eDee. Download a complimentary copy.

- https://www.ysoft.com/en/blog/be3d/an-analyst-s-take-on-3d-print-management

3D Printing workshop for Teachers – Highlight Video

- https://www.ysoft.com/en/blog/be3d/building-3d-wind-turbines-teaches-math-and-physics

YSoft be3D eDee Product Video

- https://www.youtube.com/watch?v=fZCAIJKmWMA

Dimensional Research

- www.dimensionalresearch.com/

BUILD
SMART
BUSINESS

YS-SR-EDEE-01-2017