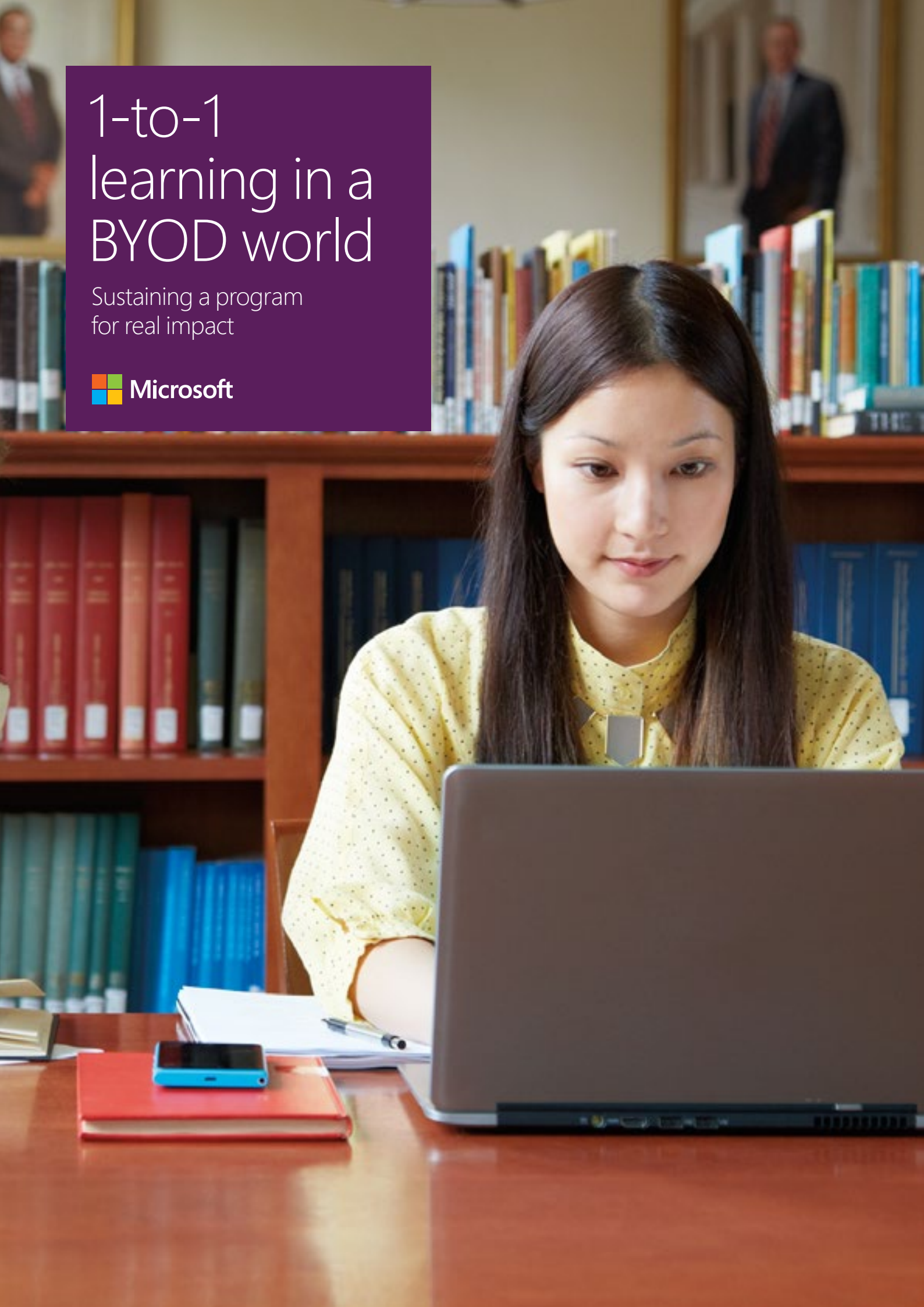


1-to-1 learning in a BYOD world

Sustaining a program for real impact

Microsoft

What's the best way to support a digital learning environment?

For many schools, enabling 1-to-1 learning is an important next step. This involves equipping every student with a suitable device. In doing so, many strategic decisions come into play – everything from device choice to who should supply devices in the absence of centralised funding models.

To help schools navigate all the choices involved and arrive at a sustainable strategy, we've put together this guide. It outlines five key stages in implementing an effective 1-to-1 learning program at your school. It's vital that schools consider these five stages holistically as they can't be approached in isolation. The crucial starting point is always your school's vision for learning.

Before exploring these five stages, it's worth examining how to proceed in the current climate, where provisioning via Bring Your Own Device (BYOD) approaches and the cloud can make the delivery of your 1-to-1 program easier and more cost effective.

Provisioning in a BYOD world: what are your options?

Of course no 1-to-1 learning program can take flight without providing the right devices to students. Since the Digital Education Revolution ended, governments play a lesser role, leaving schools from all sectors to make their own decisions about device choice and procurement; and communicating directly to parents.

In this landscape, many schools are moving to Bring Your Own Device (BYOD) approaches where parents contribute or buy student devices outright. This lets schools reduce or even sidestep the risk and cost of providing and managing devices, enabling them to launch 1-to-1 learning successfully and sustain it over time.

With cloud computing, schools can provision these devices more simply and cost effectively – and make backups and software management easier. Students can access their work and collaborate with others whether at home or at school. We discuss these trends in more detail later in the paper.

Plan, plan and plan again

Given the current climate of government investment in purchasing devices, it's more important than ever to plan your 1-to-1 program carefully in the context of your school's overall learning strategy. This will help you demonstrate its value to parents, particularly when asking them to invest in a device. It will also help you head off potential risks. This guide is designed to help you get started.

STAGE 1

Research, vision and design

Design how you will deliver the curriculum to integrate the technology effectively.

STAGE 2

Prepare, plan and budget

Decide how you will fund your strategy. Consider device choice and the BYOD model that suits you.

STAGE 3

Promote, PD and prepare for launch

Do all the groundwork with learning spaces, your school community and IT setup.

STAGE 4

Roll out the devices

Deploy the student devices. Simple familiarisation training for students and parents.

STAGE 5

Evaluate, adjust and acknowledge

Benchmark how you're doing in the context of driving the learning strategy, and adjust according to feedback.

Stage 1

Research, vision and design

Research best practice

Taking guidance from schools that have a long history of 1-to-1 learning in their school is an essential first step in understanding the potential stress and success of a good program. A working knowledge of other school programs, including successes and failures, is vital to implementing a sustained program that will impact learning outcomes. A good starting point is the Microsoft *Schools 1-to-1 Learning Best Practice Guide*. You'll also find more useful resources on the Microsoft schools website - *www.microsoft.com.au/forschools* - and in the references section at the end of this guide.

Define outcomes

When it comes to designing a device program, student outcomes are the place to start. If you can demonstrate how the right device will significantly improve learning outcomes for students in your school, you will be able to gain wide support. To achieve this, put yourself in the shoes of a parent or teacher. Ask yourself: What could we achieve? What could go wrong? Where might extra training be appropriate? Will parents be able to afford it? What does success look like and how will we measure it?

Craft a vision statement

A vision statement will be the foundation of all decisions made about your program. It will guide and inform the direction of your team, as well as stakeholders such as parents and governing bodies. Your vision statement should articulate the benefits of the program and how it will lead to improvements in student outcomes. It also needs to set targets and standards against which it can be measured.

Your vision statement check list:

- ✔ Clarify the mission and provide a sound basis for decision making.
- ✔ Provide purpose and direction that can be shared with all stakeholders.
- ✔ Provide a standard against which the project can be measured.

Stage 2

Prepare, plan and budget

Prepare a readiness assessment that considers your current resource position on ICT, infrastructure, personnel and facilities. You will need to consider all of the following in detail.

Traditional software, apps and the cloud

A key consideration is the software you plan to use at your school and how you will manage and update it. With Windows 10 and Office 365, the need to image devices across schools will lessen. Some schools have standardised their ICT infrastructure by deploying the Managed Operating Environment (MOE). You may want to review whether this should apply to student devices where there may be a genuine requirement for students to be able to install their own software. Conducting this assessment will provide a structure you can use to form the basis for your 1-to-1 project plan.

Cloud options in addition to apps should also be evaluated at this stage. Cloud services have the power to make your 1-to-1 program more effective – for example, with a single identity students can use Office 365 to collaborate easily on schoolwork in class or at home. They can also simplify device support – for instance, files and settings can be restored rapidly from OneDrive backups if devices fail or go missing. They can also make it easier to manage student software and keep it updated while providing cost benefits.

When evaluating cloud options, reliability is paramount. So is duty of care – it's critical to preserve the safety and security of student and school information. You should also assess how cloud options will interact with other software you plan to use.

What BYOD approach works best?

A BYOD approach can take several forms, as shown in the diagram. At Microsoft, we've seen many of them in action. Based on years of experience working with Australian schools, we've seen the best results from School Directed BYOD programs. This is when devices are fully funded and owned by students but are purchased in bulk from a trusted partner chosen by the school, allowing your leadership team to negotiate a specific solution that will drive the learning strategy. Other benefits of this approach include extended warranties, ongoing technical support, damage repairs and more.

In a School Directed BYOD program, you can either mandate a particular device or narrow the selection of devices that students must purchase, or mandate a set of device capabilities, allowing students to choose from a range of devices at varying price points.

Benefits of the School Directed approach

- When student devices have the same capabilities, no student is working with a device that is inferior, enabling teachers to deliver the curriculum consistently across all subjects or year levels.
- Parents and students avoid making the mistake of purchasing a device that doesn't stack up to the needs of the student – and they are saved the headache of navigating a bewildering range of options.
- It's easier to offer professional development when staff need to master only one platform.
- IT management, identity services, Internet filtering, virus protection and security updates are much simpler to manage.
- Curriculum can be centred on learning outcomes (not technical limitations or price points) – with teachers and students more productive as there's a known environment and great peer support between students and teachers.

Additional benefits of selecting a single device for students

- You gain volume buying power, simplified servicing arrangements and lower costs.
- Managing, recharging, repairs, leads, plugs and swap-in spares are all standardised.
- Your service provider can be held to account for efficient turnarounds.
- You can negotiate with your provider for loan devices and extended service needs.

Four BYOD approaches

Meaningful and targeted integration in the curriculum

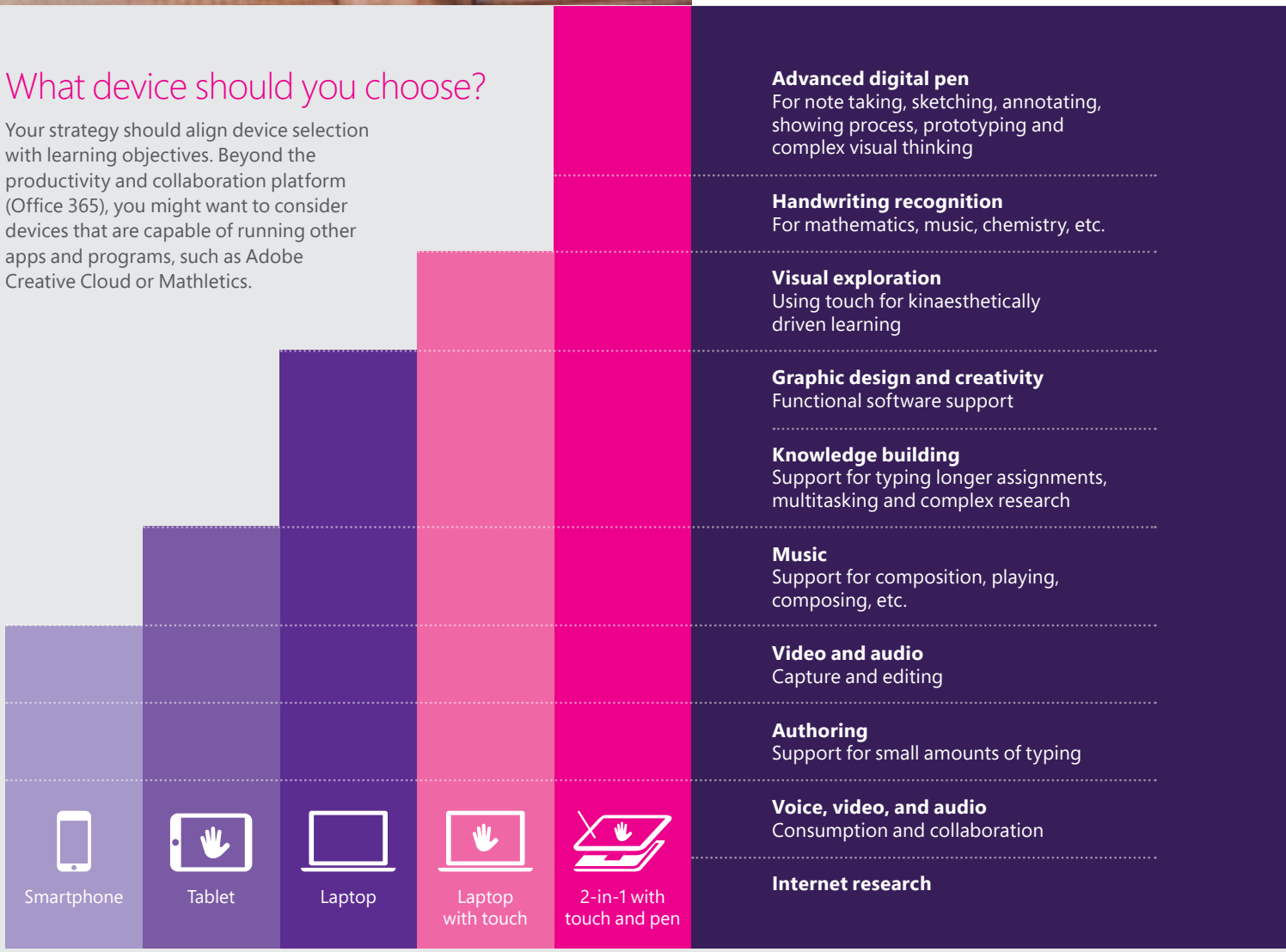
Select devices

There are two essential considerations when selecting the best device; the capabilities required by students (which may differ between year groups or subject specialisation), and the total cost per student. Balancing these two requirements can be difficult but choosing a very low cost device could leave all students with something of less value across a broad range of curriculum over multiple year levels.

You should select devices that provide students with reliable, flexible and long-term warranties – typically three years. Devices need to be strong enough, durable enough and light enough for student lifestyles. Devices must also offer sufficient speed and memory to run the required applications at your school.

What device should you choose?

Your strategy should align device selection with learning objectives. Beyond the productivity and collaboration platform (Office 365), you might want to consider devices that are capable of running other apps and programs, such as Adobe Creative Cloud or Mathletics.



Choose your supply partner/s

A preferred Microsoft partner should provide services and support for combined infrastructure services, device deployment, ongoing device support and teacher professional development. Your supplier should have a vested interest in ensuring the program works, the devices are maintained and students have a reliable experience. It's also important to consider performance measurement criteria for your partnership and how often this partnership will be reviewed.

Where applicable, your preferred supplier can also ensure devices are pre-configured with a specific device image or Managed Operating Environment (MOE) and offer greater protection in terms of quality and warranty.

Factors to consider when choosing a partner include warranty, ongoing support and replacement devices while others are being repaired, etc.

Create a project plan

Propose a manageable timeline for project implementation. Typically this includes 3-6 months for planning, projecting out for three years. Make sure you include a communication plan within the structured project plan. Set up milestones to mark your progress.

When selecting an ICT leadership team, it is recommended to designate an ICT expert as the planning leader; however, it's wise to ensure a wide range of stakeholders rather than solely technology experts. Most important is that your team members have a clear grasp of how your 1-to-1 program will drive the learning strategy for the school, incorporating key elements such as curriculum delivery as well as professional development for staff. Consult an external expert (such as a Microsoft partner) to overcome technical knowledge gaps.

Prepare a detailed budget

One way of forecasting future ICT expenditure is to measure actual spend such as hardware, software, wireless network and infrastructure requirements, telecommunication costs, ongoing technical support for teachers and administrators, professional development, system maintenance and upgrading.

Calculate the total cost of participation

Total cost will be shaped by all the decisions above, particularly the BYOD approach you select and whether you choose cloud options. Of course, parents and guardians will want to understand the total cost of participation before considering investing in your 1-to-1 program. It's important to be as thorough and as accurate as possible to avoid positioning a lower level of investment and then asking for additional contributions later. It's a good idea to suggest that costs may vary or change completely depending on the needs of each student – or you may consider suggesting a different investment depending on different year levels. You need to take the time and effort to explain to parents why there's more to consider than purely the hardware cost, especially when they draw comparisons with devices commonly marketed through retailers and online stores (many of which may have limited warranties, or are run-out (end-of-life) models.

Define your essential policies

Key areas requiring policy development could include:

- **Insurance** – Mandatory versus optional. School versus home
- **Damage and repairs** – Who is responsible for accidental damage and non-warranty repairs?
- **Access to personal software** – including games
- **Leasing and financing options** – if devices are to be student owned (school-directed BYOD)
- **Parental training** – Mandatory versus optional
- **Internet and network policy** (if different from existing policy)
  - *Home versus school.* Can students pair their device to their phone for internet access?
  - *Data limit.* School-supplied versus student-purchased credits
  - *Email.* Will you allow school-only email (such as Office 365) or personal (such as Outlook.com)?
  - *Theft.* How to report lost or stolen devices
- **School-based service and support** – Cost, level of support and supplier agreements
- **Battery charging** – Who is responsible? Will charging facilities be available at school?
- **Transport** – Responsibility between home and school
- **Security** – Virus protection and removal
- **Real-time chat, instant messaging** – Allowed, restricted or banned at school? How do you enforce this given students all have smartphones?
- **Backup and data storage** – Done by the school or the student at home? Will backup be on the school server in the cloud, or within the school;for example, OneDrive is a cloud service that is a free service for schools
- **Printing credits** – School-supplied versus student- purchased credits
- **Device cases or skins –** Mandatory or optional?

Stage 3

Promote, PD and prepare for launch

Engage your entire school community

A move to a 1-to-1 environment may challenge some people's idea of student learning, making it difficult to garner support. Getting your parent/citizen body on side before moving into the final planning stage is crucial. Maximise support by communicating early and often, making sure to acknowledge feedback.

Plan a communication strategy

Meet with your 1-to-1 team to determine the strengths, weaknesses, opportunities and potential obstacles in implementing your vision. This will enable you to tailor a communication strategy that addresses your school's unique concerns. Don't be afraid to include the educational research in your communication to parents, to help support your choice of program and device. Parents often respect the fact the school has examined the research and is making a decision based on maximising the learning opportunity for their child. This is especially important when discussing the price – if parents see the educational value of the device to their child, the investment will be seen as worthwhile.

Train your team on the importance of being knowledgeable, courteous and responsive to questions from others. Prepare answers to anticipated concerns.

Ways to reach out to your community:

- Speaking at parent groups, clubs and business/community meetings
- Producing newsletters, brochures and flyers that promote your vision
- Writing articles for the school or district newsletter
- Posting your ICT vision on the school or district website
- Using Twitter to update on your progress
- Organising demonstration nights and inviting feedback
- Offering one-on-one sessions to key individuals who are not in favour
- Enlisting early advocates within your school community like a great teacher, or passionate parent

Conduct information sessions

Once your school community is on board and ready to launch, it is helpful to provide information sessions for parents and teachers. This will allow them to absorb the finer details of the project. It's a good idea to supplement these with written documents, as well as offering further opportunities for one-on-one discussions. These can also take the form of hands-on immersive sessions, so parents can see how the devices are used in the classroom.

Prepare school learning spaces

In an 'anywhere, any time' 1-to-1 learning environment, students need flexible spaces to learn. Review the spaces you have available and decide how you can renew or refresh them to handle a 1-to-1 environment.

Procuring services, apps and programs

If your school is part of a larger system, you need to check what your school is covered for as part of existing licensing agreements. In addition, before purchasing additional cloud services, apps and software programs, be clear on the learning objectives of each class and how software will support them. Many schools and also jurisdictional bodies (Departments of Education, Catholic Dioceses) have negotiated beneficial licensing agreements with major software companies, which may support your objectives without requiring additional expenditure. It's important to check if these arrangements apply to student-owned devices.

Individual teachers and students may also want to purchase additional apps through the Windows Store. Considerations include how these apps are purchased, who owns them and whether or not you'll allow personal app purchases. There may be a need to have policies around purchase order, credit card payment or pre-paid vouchers for app purchases.

It might be preferable for the school to arrange bulk app purchase via a volume purchase portal that can apply to different year groups and ensures duty of care for the relevant student cohort. If considering the Windows 10 platform and the Windows Store, volume purchasing of apps is possible, accessible via the student's organisational email account. This varies with different platforms so it is important to investigate this.

Ensure teachers have devices first

Ideally, teachers should have devices for at least six months before students can use them in class. Alternatively, teacher devices can be trialled across year or stage levels. This helps teachers become comfortable with the technology and develop effective teaching strategies. Encouraging teachers to share and collaborate on these strategies or even lesson plans can help those feeling overwhelmed.

Support change with professional development

A well-rounded professional development (PD) program can boost confidence, build competence and foster commitment among teachers. Any IT-related PD must be explicitly linked to an improvement in teaching and learning, rather than a specific use of software or an app. While it might be fun to teach staff how to make a blog, the sessions should start with peer assessment or writing for an authentic audience. Then a blog becomes a great choice to enable the learning in these areas.

Support your teachers with multiple ways for them to build knowledge. Help them shift their perception of ICT as an add-on to technology integrated or embedded in all that they teach. Integrate the ICT-focused PD with the overall teaching and learning strategy and goals of the school. Encourage teachers to explore new forms of assessment, teaching and learning. This can take some time and can be iterative; that is, not whole of school.

In developing your strategy, consider how you will provide support for change-resistant staff, incentives to ensure all staff members embrace change, and the flexibility to enable gradual and rapid change. Identify teacher 'champions' to lead change. Build teams of teachers with complementary skills and levels of expertise. Create team incentives to foster high achievement.

Establish or bolster ICT support

Introducing a large-scale device policy will have a huge impact on your technical support staff and resources. Planning is everything. The first step is to provide a physical space as a first contact point for all ICT concerns. Make sure you have enough trained staff ready to help – particularly in the early weeks. Partners can also provide professional development support.

Order devices and prepare for deployment

Work with your Microsoft partner to order the devices directly via the school, or establish a secure portal for parents to choose and buy directly. Before you can distribute devices to students, you'll need to subject them to testing, configuration, registering and more. These tasks can be time consuming, so order devices early to help make additional technical support available during this process. Alternatively, your Microsoft partner can offer to manage this support as part of their service.

Stage 4

Roll out the devices

Introduce student devices

At this stage it's important to set up formal agreements with parents and carers regarding students' use of devices at school and outside of school. Some schools allow students to elect ICT co-ordinators among themselves, to help relieve the burden on your technical support staff. You may want to pilot one year group first to stress-test your BYOD vision, strategy and policies.

Many schools stage their device deployment by commencing with a year level (e.g., Years 7 and 10) and then adding more devices for the new inbound cohort of students each year, covering the school over a three-year period.

Familiarise students with their devices

The more students know about their devices, the more successful your 1-to-1 program will be. To this end, many schools run familiarisation sessions that prepare students to use their devices effectively for learning. This makes it easier for teachers to get students to focus on the curriculum once they start using their devices in class.

Don't forget parents

By providing hands-on sessions for parents, you can showcase the powerful new learning experiences that their device investment will make possible for their child and promote the value of your 1-to-1 program. By helping parents to support students in using their devices at home, you can also lay a stronger foundation for success. Parents also appreciate the opportunity to be involved and give feedback.

Stage 5

Evaluate, adjust and acknowledge

Establish a review group

As part of your vision, you have established a clear set of measurable outcomes for your 1-to-1 program – these need to be reviewed continually. Select a dedicated group to oversee progress and resolve problems. This group should meet regularly to compare progress with your established milestones and standards, as well as ongoing student, teacher and parent feedback. Accept there will be risks, learning experiences and a need for adjustments, but don't forget to acknowledge every success.

Be ready to remodel on the fly

As your 1-to-1 program gets into gear, build on the things that are working and improve the things that aren't. This is often the best way to match your school's specific needs, as sometimes students and teachers don't know what they need until they need it. Your 1-to-1 program will fundamentally change the dynamics of the classroom, so it will challenge entrenched habits and behaviour. Be open to constructive reviews of your achievements and opportunities for improvement.

Formalise evaluations

Written and recorded evaluation gives you credible feedback, which you can provide to sponsors, program supporters, critics and parents. It equips you with convincing evidence to support the continuation and expansion of your program. It also helps you identify any missteps that may have occurred during the initial implementation, so you can make corrective courses of action.

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For more information on 1-to-1 including BYOD guidance, best practices from other schools and a range of appropriate devices for schools – visit www.microsoft.com.au/forschools