DELIVERING ON THE PROMISE OF BLENDED LEARNING
A2K Technologies is an industry-leading solutions, training, consulting and management firm specialising in design technology. Our highly knowledgeable and industry-experienced staff from the infrastructure, building, mining and manufacturing sectors enhances our customers’ organisational capabilities, to deliver on project outcomes and differentiate from the competition. With 150 staff throughout the Asia-Pacific region, A2K has strategic partnerships with many major software and hardware vendors. Our Professional Services and Consulting divisions include many of Australasia’s most experienced Autodesk technical consultants. A2K is also an APAC Region partner of Flexera.

We have become a trusted technology advisor to our customers through the breadth and depth of our service offering and technical expertise, our commercial flexibility and high levels of customer service and understanding. Our operations, resources and infrastructure equate to the highest-level of technical support, and the widest product offering of design technology software and hardware.

Think Technology. Think A2K.
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Sean has 20 years’ industry experience with infrastructure and GIS projects. As a civil engineer, he worked on highways and bridges onsite (incorporating survey work as well as design) before spending four years in a design office setting up systems for CAD and design (in particular, drainage/sewer rehabilitation, data capture and GIS analysis). With A2K, he has worked as a senior technical consultant for infrastructure & GIS as well as sales & business management and is now focused on expanding technical services. This includes working with all relevant teams to enhance A2K’s training deliveries and incorporates tech content, business value propositions and the overall experience from the student’s perspective – the blended learning concept discussed in this paper is specifically designed to achieve these goals.
INTRODUCTION

“96 percent of executives want to see the business impact of learning; yet only 8 percent receive it now.” - ROI Institute 2009

The options for learning have evolved dramatically within recent times. Alongside Youtube and Google, we also have access to podcasts, wikis and a range of other interactive options. Yet still we face a situation where executives struggle to quantify the benefit of investing in learning for their companies. The above quote from the ROI Institute was formed through surveys. The surveys were petitioned to a variety of customers with questions specifically designed to identify how much information is measured now and how much should be measured in the future. Thus illustrating the need for improvement in the learning process for both large, medium and small companies.

Corporate messaging emphasizes that people are the most important assets of a company, thus reinforcing the concept of training and learning for business leaders as an obvious advantageous investment, with potential to increase employee morale and productivity. This is further illustrated by the focus from managers on the following areas:

- Skilled workers
- Productivity
- A means of maintaining loyalty with existing staff

Creating a culture of learning should be an ideal investment to enable the process of upskilling new staff as well as maintaining the interests and loyalty of existing workers. Paradoxically, even though business leaders are committed to the process of learning, they are sceptical about the value of training programs.

The business impact or ROI of training programs is difficult to quantify in hard dollar terms as many of the benefits are not based directly on costs and returns. Job satisfaction is a classic example of a training benefit which does not link to an obvious financial measurement. Instead it represents a very real impact on employee turnover, absenteeism and general productivity.
A2K Technologies has over 20 years of experience in running training programs. The scope of these range from generic courses for the public to programs tailored for large consultants with international reach. We ran a survey to all training attendees to get a relevant understanding on which areas were most relevant to the user base and also ran a series of workshops to follow this up.

The ultimate result of this process is the Learning Passport. This paper explains the concept of the passport using scenarios. The scenarios illustrate how it can be used to allow specific individuals to tailor specific combinations of events to suit their own time frames. The content is broken into the three main categories highlighted in the workshops – further information on the specific details is available in the appendices.
A2K Technologies ran a series of workshops to establish parameters around realistic measures of ROI for technical training. The sessions were interactive with discussions on standard challenges such as motivation as well as newer concepts such as gamification. The consistent themes across all the sessions can be summarised in the following three main findings:

**Workshop Finding 1.**
Consider full costs - not just course registration.

- Full costs include non-billable time, general disruption and travel as well as the advertised course costs.
- Feedback needs to be enabled throughout the process, not just immediately after an isolated event to help quantify ROI.

**Workshop Finding 2.**
Delivery Methods - Blended learning.

- A combination of face to face online learning is critical - flexibility is needed to cater for the preferences of different individuals.
- Courses need to constantly evolve and manuals/media need to be updated.

**Workshop Finding 3.**
Enable an Experience - Learning over a time period.

- Establish realistic individual learning paths - flexibility needed.
- Ability to start with small steps & agility to expand to full corporate training.

*In order to capture all of these points in a single statement a focus shift is needed. The shift is from justification of isolated training events to a flexible ongoing learning process to enable success while also maintaining an affordable cost structure.*
In summary, the A2K Technologies learning passport will allow individuals to attend any amount of scheduled classroom courses across A2K’s offices in Australia and New Zealand while providing access to the full Autodesk library of Global E Training (GeT) for 12 months.

### Access to all Autodesk Training sessions in all of A2K’s offices for 12 months

- Sydney
- Melbourne
- Brisbane
- Perth
- Adelaide
- Auckland
- Christchurch

### Access to the Global E Training for 12 months

- Multiple skill levels (beginners, intermediate, advanced).
- Full Library of Autodesk Software.
The concept of subscribing to a service as opposed to purchasing as asset is becoming the norm not only in the business world, but also in our personal lives. This is emphasised by the success of music and video streaming for recreation as well as maintenance/rental models for software ownership. The natural evolution of the learning process is to embrace this with a solution that is economical and flexible to enable multiple paths for specific individuals.

The Learning Passport has been introduced specifically to create a culture of learning and address the challenges identified in the workshops. The details of how the passports address three themes of the workshops are explored in the following sections.
1. **Consider Full Costs Not Just Course Registration**

Sending employees to training courses invokes multiple costs beyond the official cost of registering for the event. These include travel, non-billable time and disruption of being out of the office. The consequence of this is that training budgets become impractical. This leads to unfortunate situations where there is a desire to participate in training courses but gaining approval is a challenge.

While we cannot control the external costs, we have enabled a subscription model where a reasonable fee is paid to allow an attendee to attend all courses relevant to specific software. We have also included access to the entire Global E Training Autodesk library so that students can work at their own pace.

A2K’s workshops showed unanimous support for combination of face to face classes and E-Learning with a strong emphasis on flexibility to allow for different types of learners (age groups, expertise levels, management focus...).

A2K’s learning passport achieves this with a single cost to allow access to all material. As well as providing value for money, the passports are a more modern approach and enables a learning process as opposed to a single training event. This in turn enables reporting to occur with relevant data to focus on the contribution of a process to business goals as opposed to isolated satisfaction surveys. This is explained in further detail in Appendix 2.

![ROI Chart](image-url)
2. DELIVERY
BLENDED LEARNING

The workshops illustrated clearly that the market recognises advantages to instructor-led training (collaborative, interactive, disciplined) as well as advantages in the E-Learning equivalent (flexible, mobile, self-paced). The hybrid option of blended learning combines the best of these into a structured experience, with a focus on building a thorough understanding of the software by allowing specific individuals to tailor specific combinations of events to suit their own time frames.

Interestingly, the younger learners stipulated that they prefer to work with printed materials as well as online media. The ideal scenario was identified as workbooks and drawings as opposed to old fashioned 101 manuals which usually are not referred to back in the office. See Appendix 5 for an example of the new media.

The general concept of blended learning is logical and difficult to argue with – the details of how to efficiently turn the concept to reality are more challenging. Based on feedback, the learning passport includes the following improvements:
Ensuring that the virtual and physical experiences are in sync is a critical component of the experience – there is a danger of not evolving the face to face learning to match the newer E Learning concepts. The most logical solution to this challenge is to use the Global E Training engine during the face to face training sessions.

All A2K training machines have logins for global E Training, with the plugin installed so that the E-Learning can be accessed directly from the software, similar to context sensitive help menus - see appendix 4 for more details. This is a key component in ensuring the learning is truly a blended experience.

This provides the perfect platform to run existing courses and also to gather feedback for new topics.
3. ENABLING AN EXPERIENCE
LEARNING OVER TIME

It is clear that the main issue with traditional training is the lack of continuity. We understand that the notion of training as an isolated event needs to evolve to an ongoing process with measurable goals. The general concept of this evolution is logical and tends to be agreed with in principle, but the details of how it can be achieved with enough flexibility for diverse ranges of people without requiring enormous budgets is usually unclear.

With this in mind, a critical component of calibrating the Learning passport is establishing learning paths. This allows specific individuals to tailor specific combinations of events to suit their own time frames, skill ranges and ambitions.

The basic principle is to begin by identifying a simple needs analysis – a hypothetical example could be:

- All staff need Fundamentals training
- All staff need Navisworks training
- X staff need Families training
- X staff need Advanced training

This sets up the starting point so that the logistics of the learning paths can be configured – three simple scenarios can be outlined as follows:

SCENARIO 1 – DIGESTING CONCEPTS OVER TIME

A beginner may wish to access the E Learning and resit a specific course on a particular topic several times to digest the upskilling process over time.

The learning passport enables this so that students can process information, while working on the Global E Training portal at the same time – the illustration below shows this concept using the AutoCAD introduction course as an example. The session is repeated multiple times to enable the concepts to be digested and thus the learning process to succeed.
SCENARIO 2 – ACCELERATED STRUCTURED LEARNING

A specific learning path can be configured to begin with an introduction course, following on with advanced course and then a customisation course to impart a full range of knowledge. A simple example is shown below where courses establish a competency foundation so that more advanced courses can be added to the path.

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SCENARIO 3 – EXTENDING EXPERTISE TO NEW AREAS

A more seasoned practitioner may wish to sample parts of the Global E learning material to decide which areas of study are relevant and then attend courses on these topics. The Global E Training Autodesk library material includes the items below. These are an ideal starting point – face to face courses can then be booked on relevant areas as necessary.

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**Global E Training - Autodesk Library 2016**

- AutoCAD 2D Drafting and Annotation 2016
- AutoCAD 3D 2016
- AutoCAD Advanced 2016
- AutoCAD Architecture 2016
- AutoCAD Civil 3D 2016
- AutoCAD Civil 3D Advanced Concepts 2016
- AutoCAD Electrical 2016
- AutoCAD LT 2016
- AutoCAD Map 3D 2016
- AutoCAD Mechanical 2016
- AutoCAD MEP 2016
- AutoCAD P&ID 2016
- AutoCAD Plant 3D 2016
- Autodesk 3ds Max 2016
- Autodesk Advanced Steel Basic 2016
- Autodesk Dynamo 2016
- Autodesk Inventor 2016
- Autodesk Inventor iLogic 2016
- Autodesk Navisworks 2016
- Autodesk Revit Advanced Concepts 2016
- Autodesk Revit Families 2016
- Autodesk Revit MEP 2016
- Autodesk Revit Structure 2016
- Autodesk Showcase 2016
- Autodesk Vault Basic 2016
- Autodesk Vault Workgroup 2016
- Autodesk Vault Professional 2016

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Passports are generally licenced to individuals. If a company wishes to embark on a corporate program, there are options that can be discussed. These can include additional components such as skills assessments, customised courses and content creation. A popular scenario is for a company to begin with generic passports for the design team with a bank of customised days available for specific tasks – these are worked out on a case by case basis. More details of the corporate options are outlined in Appendix 3.

Another popular extension of the passports is using Autodesk Certification. This entitles you to use the official Autodesk Certified logo in marketing your Autodesk skills (on business cards, websites and Résumés) as specified in the logo usage guidelines. You also have access to your electronic Certificate, and if you choose, you may request your certification results be available in the Certified Users database. Further details of this are outlines in Appendix 1.

Ultimately, the plan is to extend the passports to provide options for other technologies such as Microsoft and Adobe.
What is the Autodesk Certification Program?
The Autodesk Certification program enables experienced users to receive special recognition for their knowledge of Autodesk software applications. Autodesk offers certification exams for AutoCAD, Inventor, AutoCAD Civil 3D, Autodesk Revit Architecture, Revit Structure, Revit MEP Mechanical and Autodesk 3ds Max Design.

Why choose Autodesk Certification?
- Gain the maximum return from your software investment
- Validate your employee’s skills and knowledge reliably
- Accelerate their professional development
- Enhance your organization’s credibility
- Make better hiring decisions

Benefits of certification include:

- Earn an industry-recognized credential that helps prove your skill level and can get you hired
- Accelerate your professional development and help enhance your credibility and career success
- Validate your skills and join an elite team of Autodesk Certified professionals
- Display your Autodesk Certified certificate, use the Autodesk Certified logo, highlight your achievement and get noticed by listing your name in the Autodesk Certified Professionals database

After choosing the relevant certification and assessing readiness, the next step is to work on relevant training. The Learning Passport is an ideal platform for this as multiple certifications can be tackled over a 12-month period in a structured manner.
The Global E Training curriculum has been carefully structured not only to give you the knowledge and skills you need to be a successful user of the software, but also to prepare you for the Autodesk® certification exams, including guides that let you know which topics are of particular importance for certification.
APPENDIX 2 – REPORTING

Most data collected at standard training courses is focused around the immediate reaction to a single event. This data is useful in terms of ensuring that events are run efficiently. The challenge is that the reaction data is used to justify the expense as a short term consideration, instead of ensuring that there is a longer term vision on how the training program can represent a valid contribution towards business goals.

The consequence of this is that the data gathered is largely irrelevant to business owners and stakeholders. The conclusion from the A2K ROI workshops on this was that a macro level scorecard needs to be maintained throughout the learning process to ensure results. Some of the relevant points in the scorecard are:

- Setting goals with periodic review
- Self-assessment
- Documenting barriers and enablers
- Linkage with business measures
- Fully loaded cost per participant

The learning passport provides the ideal foundation for this process with a scheduled communication process and automatic recording of activities and results.
Corporate training represents an extension of many of the concepts described in passports with the learning modules customised and enhanced to suit specific companies. This often involves creating new material for the Global E Training experience based on findings from company visits and using skills assessments to establish benchmarks so that the logistics of using resources can be managed effectively.

The process is usually phased over an extended time period with a structured framework which is project managed with specific reporting for relevant groups. The overall philosophy is to enable a learning culture across a company by investing in Learning Processes and supporting mechanisms.
APPENDIX 4 – GLOBALE E TRAINING PLUGIN

The GeT plugin simulates the online training functionality inside the software. This includes the full catalogue of interactive topics, eDemos and Let Me Try exercises and can be accessed based on the context of commands selected within the software. This bypasses the process of searching for topics by placing the relevant modules right in front of the user.

Because the Global E Library is available on all A2K training machines, students can benefit from face to face tuition while referring to the online material. This is a key component in ensuring that students achieve a blended learning experience.

The plugin is currently available for the following courses.

- AutoCAD® 2015
- AutoCAD® Civil 3D® 2015
- AutoCAD® Plant 3D 2015
- Autodesk Revit® 2015 (Architecture, MEP and Structure)
- Autodesk Navisworks® 2015
- Autodesk Inventor™ 2015
- AutoCAD® 2016
- AutoCAD® Civil 3D® 2016
- AutoCAD® Plant 3D 2016
- Autodesk Revit® 2016 (Architecture, MEP and Structure)
- Autodesk Navisworks® 2016
- Autodesk Inventor™ 2016
The feedback from our surveys has clearly illustrated that the standard 101 courseware is not used effectively. We understand that preferences towards printed manuals and onscreen text varies with different age groups and addressed this fact specifically. The conclusion was that while the online learning is definitely a favourite, all generations prefer to have something to jot notes on as well. This has led to the evolution of printing A3 drawings as part of the courseware.

As well as providing an ideal platform for taking relevant notes, the drawings also enable both students and managers to understand the contents of the course and ensure that expectations are met. The examples shown here are from the Revit Architecture Fundamentals course. A PDF file of these can be downloaded from the A2K Blog.
REFERENCES

How to measure Training Results, Philips & Stone
Edward Trolley, Running Training Like a Business
CONCLUSION

The workshop findings were summarised as identifying a need for a focus shift from justification of isolated events to a flexible ongoing learning process. This is a well understood concept which is usually hampered by budget restrictions and a lack of faith in the measurable benefits.

The Learning Passports enable the ongoing learning process without requiring an enormous investment. Learning paths can be configured to suit individual’s needs and adjusted throughout the 12-month period. This enables progress for different types of learners and also provides confidence to managers that their staff can upskill at a relevant and realistic pace.

The passports are an exciting approach with many potential implementations.

This document servers an an outline of the general concepts. We are happy to go into further detail on any of the topics discussed - please contact us on passports@a2ktechnologies.com.au