Innovating Teaching & Learning Practices with Technology Integration Frameworks: A Case on Asia Pacific University of Technology & Innovation on the Adoption of Office 365 Education Platform & Cortana Intelligence Suite for Education

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Abstract: Globalization in education presents both opportunities and challenges to educators as the trend among teachers and learners has taken a paradigm shift from the perspective of pedagogical, technology and content to preparing industry ready future workforce. The paper presents on the framework and conditions as the guiding principle for supporting Asia Pacific University of Technology & Innovation with the integration of technology into teaching, learning and curriculum enhancement across undergraduate and postgraduate programs. With in-depth study and planned implementation, 21st century learning, content development, research and development, industry ready workforce preparation and higher-order thinking can be supported with appropriate technology integration framework.

INTRODUCTION

For the adoption of Office 365 Education Platform & Cortana Intelligence Suite, to support 21st century learning, three frameworks were adopted: Technology Integration Matrix (TIM), SAMR (Substitution, Augmentation, Modification, Redefinition) and TPACK (Technological Pedagogical Content Knowledge). The paper will focus on the adoption of Substitution, Augmentation, Modification and Redefinition framework (SAMR). For the outcome of technology integration frameworks to be successful, fundamental conditions were satisfied as per the recommendations defined by the International Society for Technology in Education (ISTE). To ensure that the implementation is well received, the framework was incorporated during the early phases of the technology adoption, module development, covering the assessments and learning activities right up to the completion of the module. The goal of undertaking this initiative was to develop reflective learners through active collaborative knowledge development. The adoption of blended learning approach with various devices and platforms such as Microsoft Surface, Office 365 and Cortana Intelligence Suite were adopted to improve the overall learning experience of the students. The International Society for Technology in Education (ISTE) strongly emphasizes that the integration of technology must be supported with strong frameworks to support student-centered learning, strong leadership and continued professional development.

UNIVERSITY WIDE IMPLEMENTATION OF OFFICE 365 EDUCATION PLATFORM & CORTANA INTELLIGENCE SUITE FOR EDUCATION

Connectivism and Professional/Personal Learning Networks (PLNs)

As introduced by (Downes, 2008), the theory of connectivism defines the framework for learners of all level to engage on learning via online connections. The theory forms the foundation for learners to develop Professional/Personal Learning Networks (PLNs) by participating in social networks such as Yammer, Skype Lessons & Microsoft Teams. With Personal Learning Network, educators and learners will be able to gain access to a shared space of educators in a community of practice regardless of location. Educators and learners will not only acquire new knowledge but will move to further developer new network of learners and professionals resulting in continuous professional development. Besides social media, web sites driven by respective technology communities encourages the sharing of similar interests, and this further results in increased learning motivation. At the same time, the learner develops a pool of contacts, which may be useful for solving associated learning challenges. The Personal Learning Networks (PLNs) essentially promotes lifelong learning. In the case of Asia Pacific University of Technology & Innovation, the introduction or Microsoft Imagine Academy & Microsoft Virtual Academy to both the educator & learner community resulted higher adoption of Personal Learning Networks (PLNs).

Substitution Augmentation Modification Redefinition (SAMR)

The extensive availability of education tools and technologies will continue to evolve continuously. This has further created challenges and complexity among educators and institution of higher learnings when incorporating technologies. To assist selected educators in identifying, adopting, and evaluating technology to enhance the teaching and learning; the Substitution, Augmentation, Modification, and Redefinition (SAMR) model was adopted. The (SAMR) as illustrated in Figure 1 consists of four levels as introduced by (Puentedura 2012). In the final stage phase of the SAMR model, educators will be able to integrate technology through redefinition of the initial learning activities. The retention phase results in students having a much-solidified knowledge of employable skills. Figure 1 illustrates the mapped model of (SAMR) for the module Data Analytical Programming as presented in Table 1.

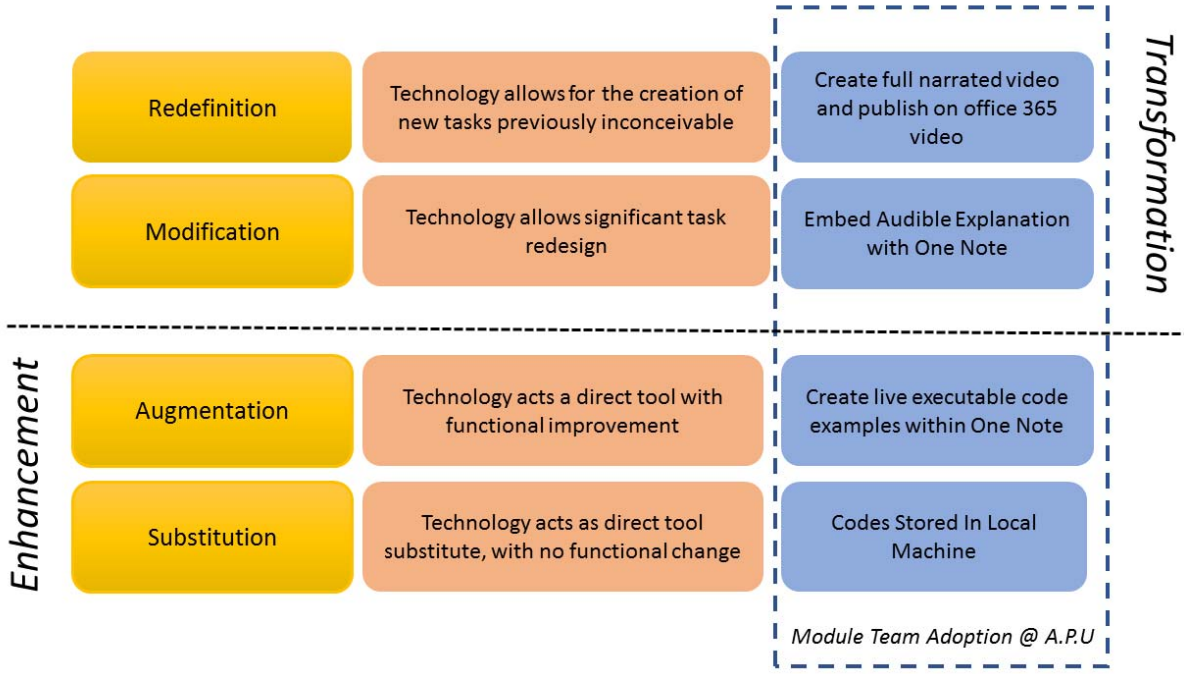

Figure 1: Mapped model of (SAMR) for the module Data Analytical Programming

SAMR Supported 4Cs Implementation with Technology

The postgraduate Data Analytical Programming module involve interpreting analytical data models by creating summary reports and enhanced listings through formulation of visualization and discovering strategies. Learners are expected to identify a problem to solve. Within the final module project, learners are expected to use multiple sources of information for synthesis followed by sharing the outcome in the class.

To support the practical augmentation based on the SAMR; the following strategies were applied to enhance the teaching and learning:

1. The adoption of Microsoft OneNote & Microsoft Teams, which enables a working space on the cloud; in which educators and learners will be to share and view module topics. In addition, learners were encouraged to use the collaboration space for feedback and reviewing among pears and team mates.

2. Microsoft Forms were used to create a survey to get learners to answer questions in relation of the experience of using Office 365 Education.

3. Educators were encouraged to develop their own videos for specific tasks. The videos were hosted on Office Mix. Learners were encouraged to review the video prior to the class; this will be followed by discussion and recording of ideas.

4. Planners were used for group based activity and assessments, which the creation of new plans, assigning and organizing of tasks followed by team chats for real time updates and collaboration.

5. Learners were encouraged to use the record audio feature in OneNote to records their group discussions and responses were provided by the educator via OneNote as well.

Outcomes of the discussion will be presented in the class through the creation of on demand presentation with Sway.

REFERENCES

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