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Using Microsoft Project to Teach Project Management in an ODeL Environment: A hands-on walkthrough

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Abstract

This study makes the case that teaching project management using Microsoft Project (MSP) is not limited to the traditional classroom or laboratory settings with physical laboratory infrastructure equipment. It can be done within the Open and Distance eLearning (ODeL) delivery environment. It points out that graduate unemployment has become an increasingly important issue facing society and particularly universities. The study cites that the increasing presence of graduates in low-paid service sector jobs is an indicator of the widening gap between the skillsets and knowledge provided by universities and the new skillsets the job market demands. It was stated that employers are increasingly looking not only for academic success but also for key employability skills that will enable graduates to adapt to the world of work and then evolve within it. The study highlights the challenge institutions are facing in responding to the call to embed employability skills into the core of Higher Education as a key institutional objective. ODeL's institutions approach to teaching is said to be theory heavy. There is a call to move away from that model and instead adopt a teaching modality that is more hands-on, practical approach with employability skills development in project management education. The study dispels the perception in some quarters regarding the quality of education from ODeL institutions. Nevertheless, it recommends a shift in the present modality in teaching project management and offers a more practical approach with employability infusion and skill development framework in project management education. This, it contends, can be achieved with the application of MSP in the virtual classroom space.

Keywords: *Employability, MSP, Skills development, Hands-on, ODeL institutions, Project Management Education*

1. Introduction

In the virtual classroom, the instructional contents in project management education should be delivered crisply and concisely through a step-by-step approach providing guidance as students perform different increasingly specialized procedures. Berggren and Soderlund (2008) lament when they observe the way project management education is delivered in universities. This mode is not fit for purpose in the present business landscape. They draw from more than ten years of experience from two senior-level education programs to show how educational practices can be developed to stimulate knowledge co-production

between practitioners and academia. They highlight the role of projects to society and the importance of project management to universities and management educators.

They maintain that previous research and reports have given severe critique to much of the project management education for its lack of relevance and rigor – but offer surprisingly little guidance as to what to do to deal with the problems. They suggest a model based on "social twist" of experiential learning theory and dissed learning models of how project management education can be improved in response to the call for a better teaching and learning process. Chatfield and Johnson (2016) also saw the way project management is taught and proposed a different model. They suggested a model in which as they put it, "you learn just the facts". Besides, their proposed model provides "how-to" steps whereby students learn by doing. In this model, students build employability skills as they learn.

Background

The digital economy is no longer a buss word around the globe. It has become a reality in the present-day business environment. What is a better way to give learners the tools they need to navigate the new work environment? This can be achieved with the infusion of employability skills in project management education. In the fast-paced world driven by technology, students should be active participants (Bunin, 2012) in the teaching and learning process. Besides, students should embrace new ways of using technology in the teaching and learning process.

Project management means different things to different people (Briggs, 2012). For some, project management is a science, for other, it is an art, and for still others, it is both a science and an art (Briggs, 2012; Larson & Gray, 2025). These differences are shown in the way the subject is taught and learnt in institutions of higher education. Project is a tool intended to accomplish unique outcomes with limited resources under critical constraints (Mantel, Meredith, Shafer, & Sutton, 2008). They stated that "Over the past several decades, more and more work has been accomplished through the use of project management" to bring about change. This sentiment is echoed by the UK's Office of Government Commerce (OGC), the official publisher ofPRINCE2 project management methodology. OGC (2009) expressed that "It is often stated that the one constant in the modern world is change. Whether that change is driven from a strategic perspective, forms part of a programme of transformational change, or is in response to an operational imperative, the delivery mechanism for change remains the same, and that is project management. As a tool to bring about change, therefore, the way project management is taught and learnt in ODeL institutions should align with this mandate. However, that is not usually the case. This is where Microsoft Project (MSP) comes to the rescue.

Microsoft Project (MSP) is a valuable tool for teaching project management because among others, it provides a practical platform for students to learn and apply project planning, scheduling, and tracking performance, among others. By using MSP, students can gain hands-on experience in creating project plans, defining tasks, assigning resources, managing budgets, and monitoring progress (Lewis, Chatfi, & Johnson, 2019). All these can be performed on time, while maximising efficiency (Wallecha & Mata, 2020). MSP is not just an industry tool; it is equally an educational tool for teaching and learning. Application of technology in the teaching of project management is a necessity. However, in many Open and Distance eLearning (ODeL) institutions, project management education lacks the exposure of their

students to the benefit of hands-on practice with MSP or any other project management software such as Trello, Zoho Projects, Smartsheet, and Primavera Expedition. These tools offer features like task management, workflow automation, communication tools, and reporting, among others. These supports the view that project management is a two-dimensional construct (Briggs, 2012). It is both a science and an art.

Maina, Guàrdia, and Fernández-Ferrer (2021) lament the quality of education from universities saying that graduate unemployment has become an increasingly important issue facing society and particularly universities. They maintain that success in academic studies for many young people does not lead to success in finding employment. They cite the increasing presence of graduates in low-paid service sector jobs as an indicator of the widening gap between the skillsets and knowledge provided by universities and the new skillsets the job market demands. In this respect, it was observed that higher education systems are proving slow to respond to these emerging demands. Similarly, the OECD (2016) points out that employers are increasingly looking not only for academic success but also for key employability skills that will enable graduates to adapt to the world of work and then evolve within it. It is stated that this poses a challenge to Higher Education Institutions. With that contention, there has been a loud call for the need to embed employability skills into the core of Higher Education as a key institutional objective (Maina, Guàrdia, and Fernández-Ferrer, 2021).

This study is predicated on the notion that providing knowledge is not the only mandate of Higher Education Institutions with a focus on ODeL institutions. In fact, it is a central priority for governments, universities and colleges, and employers as well as the students themselves that a greater emphasis be placed on employability [skills development] that will bring significant public and private benefits to society (OECD, 2016). This is particularly important for ODeL institutions at a time when the quality of ODeL institutions is being questioned in some quarters (OECD, 2016). Therefore, there is a call to strengthen the university's broader contribution to economic growth and the vital part it plays in social and cultural development. ODeL institutions are in the centre of this call to action.

ODeL institutions can equip their students with the requisite skills (best practices) in the virtual classroom in project management education. However, the teaching approach in many ODeL institutions reinforces the perceptions of students and the public about the quality of education in this educational landscape when it comes to project management education. This perception was highlighted in a study by Pazhanivelu, Mary, and Elsayed, (2025) who decries the delivery modality which is deemed "theory heavy". The result indicate that students have a low perception of the quality of classes they took in Online institutions versus the classes they took in traditional institutions. One of the main reasons they cited was lack of practical experiences in online classes. Similarly, a study by Gu, Smith, Kunpeng, and Jitpaiboon (2017) cited a variety of factors as causing the negative perceptions. They believe the negative perceptions by students correlate with a study conducted by kamal and Iliyan (2021) that made similar observations. Furthermore, Kamal and Iliyan study confirms others' findings citing low perceptions about online institutions. They explained that about 77.5% of respondents expressed negative perception about the quality of online institutions programs.

Problem Statement of the Study

Collectively, the low perceptions of students, teachers, and the public put graduates from online institutions at a competitive disadvantage. However, a study by Gurung (2022) saw an uptick in a positive direction in terms of the quality of online institutions programs. Nevertheless, a search of the literature did not turn up a great deal of published sources on this topic. Therefore, the importance of this topic on students, teachers, institutions, and the inadequacy of literature on integrating employability into the curriculum, teaching, and authentic assessment processes in ODeL institutions, drive the motivation to investigate this topic. The study attempts to dispel the notion that the quality of education from ODeL institutions is of low quality because the modality of ODeL institutions delivery is theory heavy. This notion was countered with demonstrating that the use of MSP in the virtual teaching and learning space can equip students with the practical employability skillsets they need to navigate the world of work and succeed. As the business landscape shifts and technology evolves, ODeL institutions must adapt their pedagogical orientation to be fit for purpose.

Aim of the Study

ODeL institutions offer technology-mediated programs primarily in the form of tutorials and lectures. These models of modality are theory heavy. There is a need to move away from these models in project management education. Given the above background, the focus of this study is to propose a hands-on, practical approach for the integration of employability skills development in project management education in virtual classrooms, using MSP as a central tool to achieve this. In the current educational environment, the virtual space is no longer a barrier. With educational technologies availability and technical expertise with project management software availability, nothing prevents one from grounding students with the opportunity to develop skills in the use of any project management software to learn and teach project management. This is where Microsoft Project (MSP) come into this debate. Given the enormity of the problem, therefore, this study further seeks to demonstrate how theory and application can work together in practice (real time) to solve real problem.

This study presents a step-by-step approach in using MSP to teach project management. This is what is lacking in the delivery of project management education in the ODeL teaching and learning space. This is what this study intends to illustrate.

To achieve the main purpose of this study, the paper is structured into three main sections. Section one has introduced the study, presenting the motivation and need for the study. There, the background was presented about the current state of the topic and what is missing in the literature thereby, placing the study in context. Section two presents the overall purpose of the study and the research questions which guide the entire study. Section three presents generic procedures to illustrate how MSP is used to teach project management in the ODeL environment. These practical steps are intended to illustrate how the use of MSP in teaching project management in the ODeL environment can equip graduates and other stakeholders with the employability skill sets needed in the increasingly evolving business landscape. This is what businesses are asking for. This is what project management education is about. This is what teachers and institutions should infuse in their students. This is the mandate of ODeL institutions. Anything less than

this would continue to perpetuate the negative perceptions by the wider world about ODeL graduates as low quality, ill-prepared, and not ready for the current world of work.

Furthermore, the proposed model would give students the tools they need to succeed in the job market when it comes to seeking employment or starting, running, and growing their own businesses. The study will demonstrate that the use of software, (specifically MSP) in teaching project management is no longer limited to the traditional classroom and laboratory environments. This will be achieved by providing a brief narrative of how theory and application can work together in practice (i.e., in a real world situation) in project management education with the use of MSP within a technology-mediated learning space.

Research Questions

Q1. Are ODeL institutions ready to answer the call to action regarding project management education?

Q2. How can adopting a hands-on approach with MSP in teaching project management infuse employability skills in project management education in a virtual classroom setting?

Q3. What can be done to reverse the negative perceptions about ODeL students, graduates, and the public regarding the quality of project management education?

Significance of the Study

In the end, ODeL students and graduates will no longer be at a competitive disadvantage. Besides, the perceptions of low-quality education from online and e-Learning institutions will give way for positive perceptions and improvement in employability. In addition, students will have more confidence knowing that they can stand toe-to-toe in a job market that is increasingly becoming competitive and uncertain. Furthermore, as Bunin (2012) puts it, the pedagogical approach suggested in this study, gives students the understanding of why they are learning what they are learning and be fully prepared to apply their skills in different contexts. She contends that this is a pedagogical approach with a more practical content to make learning skills more meaningful to students.

Research Question and Answer

Q1: Are ODeL **institutions ready to answer the call to action regarding project management education?**

Answer to question 1: This call does not ask ODeL institutions to only translate theory to practice but to also marry theory with application and the values and change in mindset. Such attributes would ensure that graduates and other stakeholders who go through the ODeL experience are equipped with the necessary employability skillset and characteristics to prove themselves in the increasingly competitive business landscape. And this is the answer to the call to action by industry, public sector, and civil society

at large. With such a return on investment (ROI), governments, families, and organizations would realize that every fund spent in education would be an investment with huge returns.

Q2. How can adopting a hands-on approach with MSP in teaching project management infuse employability skills in project management education in a virtual classroom setting?

Answer to question 2: The tutorial, reading, hands-on, and step-by-step approach (especially with MSP) in the teaching and learning processes, will enhance students' retention of learning, develop their skill and competency (albeit, in the virtual space), and ability to apply their learning. This is the true meaning of theory and practice working together in tandem. This is what infusion of employability skills in project management education really looks like

Q3. What can be done to reverse the negative perceptions about ODeL students, graduates, and the public regarding the quality of project management education?

Answer to question 3: This study makes the case that it is possible to equip students and trainees of project management at ODel institutions to provide hands-on walkthrough with MSP for their students and trainees. Afterall, some of the attendees of ODel programs and short courses come to such learning environments to retrain and upskill with the tools used in the industry. Software application is one of such tools. Competency with MSP and other software application in project management would equip ODeL students with the employability skillsets employers and the public are looking for in applicants. A demonstrated ability in this respect would be a confirmation that ODeL students (products) have raised their competitive quality,

The ODel environment supported by LMS and Video Conferencing facilities are a viable alternative providing equal or better (quality) learning experience for learners. When students, graduates, and the public see that ODeL institutions' products are demonstrating competency and skills needed to hit the ground running and articulate with confidence, their ability to apply the application invoke, all negative perceptions regarding the quality of ODeL products would be no more. This change in positive perception would be enhanced by actual performance on the job which can be seen as highly competitive.

Discussion

Microsoft project (MSP) is a software application designed to help people involved in project management works to execute their activities effectively and efficiently. Gone are the days when online teaching and learning modalities disadvantage learners by their inability to engage learners synchronously. The availability of Learning Management Systems (LMS) such as Moodle, Blackboard, and Canvas as well as video conferencing tools such as Zoom, Google Meet, and Microsoft Team has eliminated the deficiencies associated with traditional educational system where learners and teachers need to be at the same place and time for learning to occur. In today's Open and Distance eLearning (ODeL) environment, the availability and use of LMS has enabled teachers and learners share and discuss materials and engage in different ways such as synchronously; keeping learners and teachers engaged; taking attendance records; and saving and maintaining learning activities records seamlessly. In teaching project management topics,

courses [modules], or units in an ODel environment, the use of MSP and other applications enables teachers and learners to engage and interact in different activities (Bunin, 2012).

Instructional designers might use a variety of instructional strategies and design models to make courses effective and productive through LMS (Cinar & Tuzun, 2016). This is where the use of MSP in particular, in teaching project management in an ODeL environment a viable alternative to the traditional classroom environment with infrastructures needing physical presence of students and lecturers or tutors no longer the only way. Similarly, different authors observed that an LMS such as Moodle provides advantages including maintaining course content; collaborating on assignments; holding meetings synchronously; sharing tasks; conducting examinations, surveys, and engaging in discussion forums; updating calendars; tracking learners' participation; seeing learners who are active and those who are not [and making information accessible] anytime, anywhere in both synchronous and asynchronous ways (Kudryashova, Gorbatova, & Rozhkova, 2016; Limongelli, Sciarrone, & Vaste, 2011). Besides, MSP provides learners a hands-on guide to assist in performing project management functions. Even though MSP can help a user to manage different aspects of the project management knowledge areas, most users focus only on using MSP to assist with scope, time, cost, resources, and communications management (Schwalbe, 2018). Furthermore, the use of MSP can allow learners to follow a step-by-step walkthrough to see and perform how to plan, estimate cost and time, develop budget, allocate resources, schedule activities, create Gantt Charts, monitor and control work performance, and produce reports (Kloppenborg, Anantatmula, & Wells, 2022). In fact, the MSP published by Jonh Wiley as a part of the Microsoft Official Academic Course series focuses on *Workforce Development* by emphasising authentic workplace scenarios with an abundance of projects, exercises, cases, and assessments (Kane, 2008). This is very suitable in the ODel environment.

Furthermore, traditional learning environments that teach project management with software components facilitate the hands-on walkthrough in a physical laboratory where the necessary infrastructure (such as computers loaded with software) is available, many ODel institutions do not teach the software application aspect in their project management courses. This disadvantages the students who graduate with project management degrees from ODel institutions. This impact is not limited to degree students. Even stakeholders or clients who attend short course trainings in project management are not exposed to the hands-on walkthrough experiences. Lack of this critical skill puts graduates and trainees who take project management courses at ODel institutions at a competitive disadvantage. As Chatfield and Johnson (2016) claim, project management is a broadly practiced art and science. Generally, many ODel institutions teach primarily the art at the expense of the science.

This study is also based on the author's experience with learners, practitioners, professionals, and project team members as well a review of the literature. MSP as a taught course/unit/topic in an ODel institution is intended to give learners the knowledge and tool they need in an interactive, hands-on environment. Here, learners acquire the technical knowledge and develop the skills necessary for project management performance in the real world.

ODel is sometimes referred to as E-learning, Distance Learning, and Online Teaching and Learning Methodologies (Parui & Nath, 2014). They referred to this new concept of educational modalities as "Education for all, anywhere, and anytime". These terms may mean different things to different people, but they are commonly referred to as "online learning". Some say "distance learning is a form of

educational delivery in which learners are not physically present on site. These learners may be separated by time and space or by space only. E-learning on the other hand, is a form of educational system in which instructions are delivered via the Internet with the use of various media files such as videos, CDs, audios, and other electronic networks such as video conferencing (Parui & Nath, 2014). Online education is simply the provision of education over the Internet. As can be seen, the differences are very little. This is why it is difficult to develop a common generic definition of ODel. Any definition could cut across all the three terms.

Distance learning/teaching, E-learning/teaching, and Online learning/teaching utilize a variety of Learning Management Systems (LMS). However, Ueda and Nakamura (2016) think that Moodle is one of the most popular LMS due to its ease of use. LMS is known to enable the provision of quality online education quickly and economically (Ozmen, Tepe, & Tuzun, 2018). In designing instructional materials for e-learning environments, one must start with a plan which examines everything related to planning of the instructional activities.

Instructional design examines everything related to the planning of instructional activities. Berger and Kam (1996) describe this as the systematic development of instructional elements applying teaching and learning theories to the purpose of maintaining the quality of education. They maintain that in the instructional design process, teaching activities and materials are developed, teaching and learning activities are tested, and the materials are evaluated. Raigeluth and Frick (1999) refer to the theories that provide guidance for improving people's learning and development as "instructional design models". For Tuzun (2001), any approaches that help the systematic progress of the instructional design processes based on a plan are, instructional design models. The following is a brief hands-on illustration of the use of MSP in teaching and learning project management education.

Hands-on Illustrations

The following are just two examples of the step-by-step approach on how to use MSP in teaching and learning project management.

1. *Enter the project start date*.
2. In the Start date text box, enter **8/1/16**.
3. Setting your project start date to 8/1/16 will ensure that your work matches the results that appear in this appendix.

Change the Current date (this might be today's date) to **8/1/16** as well.
Click **OK or press Enter**.

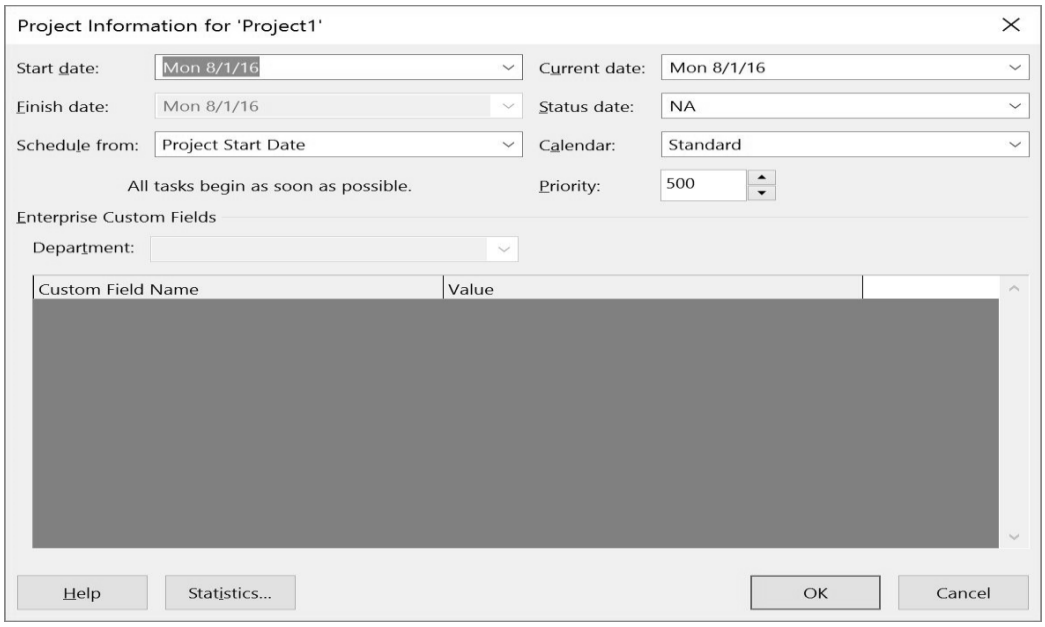

Figure 1: Setup a project start date

DEVELOPING THE SCHEDULE

1. *Open a new file and access the Change Working Time dialog box.*
2. Click the Project tab, and then click the Change Working Time button under the Properties group. The Change Working Time dialog box opens.
3. *Name the new base calendar*. In the Change Working Time dialog box.
4. *Click Create New Calendar*. The Create New Base Calendar dialog box opens.
5. *Click the Create new base calendar radio button*. Type Fiscal as the name of the new calendar in the Name text box, and then click OK.
6. *Change the fiscal year start*. In the Change Working Time dialog box,
   Click Options at the bottom of the screen. Change the fiscal year to start in October instead of January.

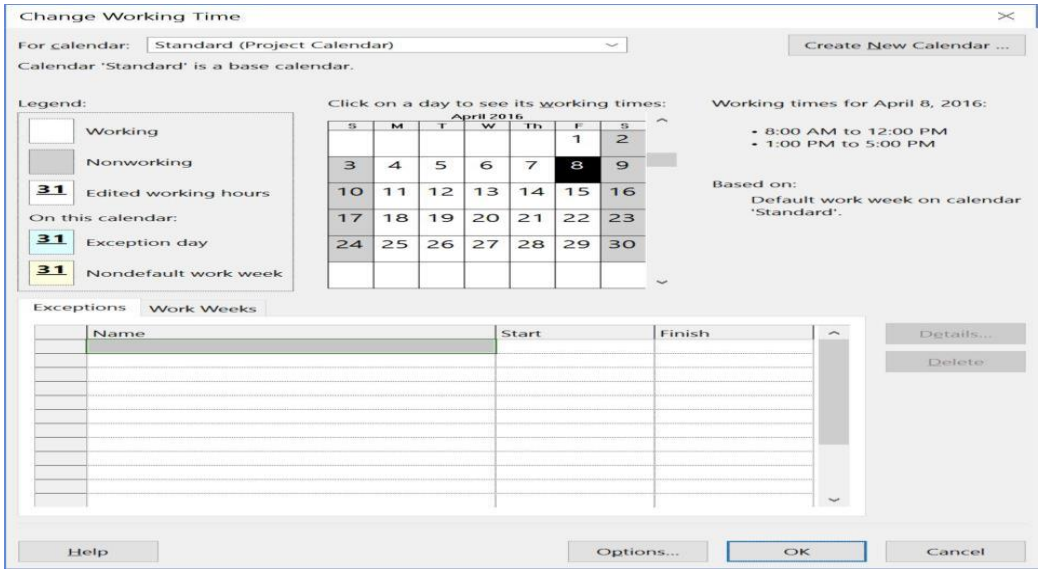

Figure 2: Setup a new project calendar

Entering Task Durations in the Duration column of the Gantt Chat (Figure 3)

Manual and Automatic Scheduling

Tasks can be scheduled manually or automatically in the Task Mode column.

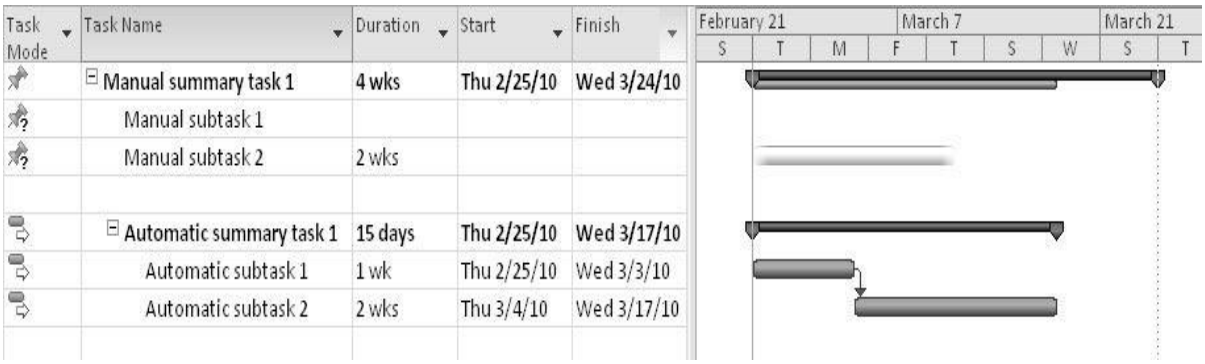

Figure 3: Enter task duration and change task mode

Summary and Conclusions

The study has made the case that project management is both an art and a science. The technical component is just as important as the artistic component. MSP is no longer limited to be taught in the physical laboratory or classroom. Any where there is a computer, laptop, or tablet loaded with the software and connectivity, MSP can be taught interactively where students are engaged and actively involved. Besides, there is also a desktop version which can be used offline. In an MSP session (online or in person, active teaching and learning can take place). The availability of LMS such as Microsoft Team, Google Meet, and other video conferencing facilities has made teaching MSP online just as it is taught in a physical laboratory or classroom.

We need to change perceptions about the quality of ODeL programs, their students, and their graduates. We need to equip them with the right tools they need to be just as competitive as their counterparts from any institution of higher learning (universities and colleges). We can not continue to give knowledge without the skill set needed to apply the knowledge in real situations. To be a successful project manager, one must be good at both the soft side (theory or art) and the hard side (application or science). This is what Larson and Gray (2025) referred to as the "Sociocultural and Technical" dimensions of project management.

Finally, most students attend ODeL institutions to prepare for career, job readiness, and success by way of upskilling, maintaining, and renewing their knowledge and skills with current developments in various disciplines and industries. Hands-on training enhances learning outcomes and builds capacity. These can be achieved by the way we design modules, prepare learning materials, teach students, and implement assessments according to authentic assessment processes. The goal of such a framework is to turn knowledge into practice. And this is the essence of educational mandate. This is the meaning of "equipment with employability skillsets".

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