Jordan Opportunity for Virtual Innovative Teaching and Learning

A Needs Analysis Report Contextualising the State of the Art in
International Online Teaching and Learning, with Particular
Attention to the Jordanian Case

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Members of the JOVITAL Consortium

Four European institutions and five Jordanian universities

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**TECHNISCHE
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za družbene in poslovne študije
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German Jordanian University

Abstract

Overview

JOVITAL is an international cooperation project co-funded by the Erasmus + Capacity Building in HE programmes¹ of the European Union during the period October 2017 - 2020 involving four European institutions and five Jordanian universities. JOVITAL aims to foster academic exchange using virtual mobility in order to offer learning opportunities to academic staff, university students and disadvantaged learners in Jordan.

Overarching Goal of JOVITAL

The overarching goal of JOVITAL is to improve the quality of teaching in Jordanian Higher Education Institutions by introducing innovative collaborative tools and methodologies and by fostering academic international exchange.

Needs Analysis

Work Package One of the JOVITAL project, led by Coventry University, has involved: A review of the literature considering international perspectives about key conceptions of online and international learning, with particular emphasis on the Jordanian HEI context; A country report of Jordan, sharing country demographics as well as contextual higher education practices; Expert perspectives about education and policy for virtual innovative teaching and learning; Analysis and interpretation of institutional and academic survey data from the five Jordanian partners as part of benchmarking and development of an action plan; the detailing of a set of recommendations for capacity building to inform the next stage work packages; and, a Communities of Practice framework, to facilitate the sharing of experiences and best practice in Jordanian HEIs.

Quality assurance mechanism

Ethics approval to conduct the study was granted from Coventry University Research Ethics Committee (21/04/2018 ref: P69203). Quality Assurance was provided by JOVITAL partners at the International School for Social and Business Studies, Slovenia.

Key Recommendations

- Top-Down and Bottom-Up Implementation
- Collaborative Creation in Communities of Practice
- Supporting Staff in the Design and Delivery of Virtual Teaching and Learning Practices, including use of Open Educational Resources
- Enhancing the Quality of Student Learning and the Student Voice
- Future proofing and engagement with the rest of the world

Top-Down and Bottom-Up Implementation

Strategic planning needs to occur with regards to how research, e-pedagogy and institutional support can be harnessed to promote the design and delivery of Online learning. Due to institutional variance amongst the participating HEIs, universities will need to identify their own strategic roadmaps. These road maps need to be aligned to national and regional agendas as outlined in the National eLearning Strategy for Higher Education Jordan. Further, the participating Jordanian universities will need to connect their own satellite E-Pedagogy / E-

¹ <http://eacea.ec.europa.eu/erasmus-plus/actions/key-action-2-cooperation-for-innovation-and-exchange-good-practices>

Learning Centres with the National Centre for Electronic Learning, an Educational Open Resources Centre, due to be launched in Jordan as an IT hub.

In terms of human resources, E-Learning Instructors, Technical Support staff and Academics who already have state of the art e-learning expertise locally, are required to provide training and mentorship to equip academic staff with the required digital competencies. These actors, as experts in e-learning, may include students, postgraduates and Doctoral students. The development and integration of these roles across Jordanian HE is still relatively new, and there are gaps in provision. The use of relevant technology and software is important – virtual learning, augmented reality and animation provide academics with tools to make e-learning and online learning more bespoke especially with respect to discipline upskilling. This will require key support staff engagement.

- Policy needs to be embedded at a National and institutional level to ensure effective strategies for integration of quality virtual teaching and learning practices
- Investment in infrastructure will ease process development for online international learning, and ways to transition teaching and learning materials and programmes
- Resources (ICT, use of institutional repositories) are required in those institutions where resources are not available
- Facilitation and support will be required in the integration of participating Jordanian HEIs in its Online International Learning (OIL) global network for virtual international exchange (with ongoing evaluation as the project progresses).

Collaborative Creation in Communities of Practice

The establishment of institutional forums and cross institutional forums is required to cater for institutional variance, with respect of academic competencies in the design and delivery of pedagogy for quality online (international) learning. The forums should be developed based on a Communities of Practice framework, to facilitate the sharing of experiences and best practice in Jordanian HEIs (Please refer to p.71 - 71, for an overview of a community of practice model.) These forums, offered on an ongoing basis, should be facilitated by local champions in virtual teaching and learning practices at the Jordanian Universities. The forums will focus on the sharing of pedagogical experiences to better understand lecturers' needs with a view to empowering staff and to support their positivity and ingenuity. This is particularly pertinent for young staff who display a great enthusiasm, and to appreciate why some professors appear less willing to apply digital pedagogies and learning tools. These forums will provide space for dialogue and exchange in which to share and identify institutional and cross-institutional strategies to address the concerns, including specific training needs. Without a community of practice to draw upon, and to share best practice within, the adoption of virtual innovation in online learning might not be as strong and well developed in Jordan as it could be.

- Interdisciplinary of partnership is core and a collaborative approach needs to be adopted
- As the findings of this needs analysis predominantly captured academic practices within STEM subjects, and from males, the full range of disciplines within an institution, and across genders, needs to be represented at such forums
- If the level of expertise is not available in the institution, or if people in the institution are reluctant to adopt new practices in virtual innovative teaching and learning, advocates should collaborate outside of the institution
- The potential of greater impact can be realised when a consortium of institutions collaborates together rather than something happening within just one institution
- Learning resources, context related, can help profile the scholarship occurring in the partner HEIs to inspire and evoke further sharing, collaboration and social commitment across Jordan's HEIs

Supporting Staff in the Design and Delivery of Virtual Teaching and Learning Practices, including use of Open Educational Resources

The most important and recurring needs relate to strategic and technical training, particularly at an institutional level. Most lecturers use online resources readily, but there seems to be difficulty assessing how efficient or effective these interactions are. It is also important to assess the quality of e-learning and online learning with particular reference to underlying pedagogy, student-centred learning environments and reliable use of assessments.

- Staff development needs should be prioritised not only in the design of pedagogy for quality online (international) learning, but also for effective online intercultural exchange
- Empirical research can showcase the value of effective e-learning especially when linked with constructivist e-pedagogy, particularly for senior professors who have stated there is no pedagogic value in using e-learning/online
- Staff incentives and/or recognition are required to engage staff in continuous professional development (CPD) and self-improvement
- The effort and focus required for staff to work effectively in a digital world needs to be better acknowledged
- Staff need to be supported to problem solve ways to transition teaching and learning materials and programmes and to license their academic learning resources (in Arabic or local languages) as open education resources (OER)

Enhancing the Quality of Student Learning and the Student Voice

It was evident in the baseline institutional survey findings, that whilst student module and course evaluations are sometimes captured, this practice is not consistent across all institutions, and the analysis of student feedback is not often known. Student satisfaction and feedback is imperative for academic staff to be aware of, in order to help design and deliver best practices to cater for learner satisfaction, learner engagement and attainment in learning. Students are a university's best asset and have a richness of experience and reciprocal expertise to share, which needs to be known and listened to. Further the findings of this Needs Analysis have evidenced that staff often assume students have the required digital competencies to engage in virtual / online learning. It cannot be assumed that students have the appropriate digital skills, and students need to be signposted to support with regards to enhancing their digital fluency, including their understanding of their identity and privacy profiles when learning in online spaces.

- Strategies are required at regional and local levels to address ways to promote equitable access to learning including women, and other disadvantaged learners etc.
- Issues of quality need to be carefully considered and managed for example, processes for capturing student experience, student engagement, measuring learning gain etc.
- Student representatives are required, recruited on each course programmed, at each study level (Diploma, Higher Diploma, Bachelor, Masters and PhD) to share students views. Course Representatives should be invited to feedback at strategic forums. The student body should be informed about how the university is tackling / addressing their feedback
- Virtual teaching and learning needs to be accessible to meet a wide range of learner needs including students with learning disabilities
- All student's need to be made aware of and signposted to support services, with regards to enhancing digital fluency competencies for e-learning

- Understanding how computer-mediated communication works, including how students connect with each other and build trust within learning networks is required for effective online intercultural exchange

Future proofing and engagement with the rest of the world

As was noted in the institutional profiles, some of the Jordanian partner institutions are already collaborating on projects with international colleagues and / or offering online courses, accessing global learning communities, however other universities are not yet at this stage. As the project progresses, all partners need to be enabled to offer online international learning opportunities, through internationalization-at-home initiatives, whereby virtual strategic approaches enable students to engage in pedagogy and assessment with international learners, (similar to e-pedagogy practices currently performed at TUD Dresden, and CU, UK). In addition, an important focus of JOVITAL is how virtual learning opportunities can be made available to people and communities beyond the walls of the institution, and via mobile learning strategies within Refugee Camps in Jordan and beyond.

- Facilitation and support in the integration of participating Jordanian HEIs in its Online International Learning (OIL) global network for virtual international exchange (*with ongoing evaluation as the project progresses*)
- Institutional repositories to make learning materials and contents freely available to others through appropriate licensing of OER content
- Those developing OER already should review their licensing approach and work with their institutions, and others where possible, to help formulate guidelines for OER creators
- Creation / application for further funding to create VITAL Hubs and other mobile learning resources to be used within Refugee Camps
- Opportunities to extend international collaboration amongst partners and associated networks, to promote and continue reciprocal research in virtual innovative teaching and learning

This report provides evidence against the following project deliverables:

WP1

- D1.1. First experts forum and report on innovative virtual teaching and learning concepts
- D1.2. State of the art report on Virtual Mobility and international exchange
- D1.3. Reports on the Jordanian case
- D1.5. Recommendations and action plan

Map of Jordan

Including location of the Jordanian HEI Partners

<https://en.wikipedia.org/wiki/Jordan>

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- Professor Eric Schoop, Chair of Wirtschaftsinformatik, Information Management at the Faculty of Business and Economics, Technische Universität Dresden, Germany
- Professor Adel Tweissi, Jordanian Education Minister, Jordan
- Professor Ahmed I. Abu-El-Heija, Professor of Electrical and Computer Engineering, Senior Consultant of ICT and Education, Head of Erasmus National Office, Jordan.

Contributing Institutions

Princess Sumaya University for Technology (PSUT)
German Jordanian University (GJU)
Tafila Technical University (TTU)
Al-Hussein Bin Talal University (AHU)
Jordan University of Science and Technology (JUST)

Acronyms

HE	Higher Education
HEI	Higher Education Institution
ICT	Information Communication Technology
IR	Institutional Repository
LMS	Learning Management System
MOOC	Massive Open Online Course
OIL	Online International Learning
OER	Open Educational Resources
STEM	Science, Technology, Engineering and Mathematics

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1. Introduction to JOVITAL

Wissam Tawileh, JOVITAL Project Manager, Dresden

1.1 Rationale for the JOVITAL Project

Rapid advancement in Information and Communication Technologies (ICT) has imposed significant change in almost all aspects of our lives. Networked technologies are reshaping human interaction and creating new potentials and possibilities in essential sectors including health, business, and education, to name but a few. Although ICT-based teaching practices have been present in research and development for decades, the major digital transformation towards user-centred, participative, immersive, social interactive online learning experiences still remains unexploited for many Higher Education Institutions (HEIs), especially in Jordan. Competent adoption of suitable pedagogical approaches, conscious didactical curricular development, and appropriate design of learning activities are the critical factors for meaningful integration of new technologies in formal educational processes, rather than availability of technical tools. Despite intensive efforts to introduce “classical” E-Learning applications in established teaching procedures, HEIs in Jordan still face serious challenges in fostering technology adoption and effective modernisation of their teaching practices. Reasons for this include considerable lack of pedagogical and didactical know-how, shifts from outdated frontal teaching formats, low motivation and change resistance, limited resources, and deficient policies and strategies (Andersson & Grönlund, 2009).

JOVITAL addresses the specific need for comprehensive capacity building programmes for academic staff in Jordanian HEIs in order to enable staff to acquire essential competencies in effective pedagogical approaches suitable for modern teaching in the digital age. JOVITAL will concentrate on the, “[m]odernisation of curriculum by developing new and innovative courses and methodologies,” as a national priority for HEIs in Jordan, matching the development strategy of the country in its aim to, “[i]mprove quality of education and teaching”. The project objectives also match national priorities defined by the Jordanian government for ERASMUS+ CBHE projects under Category B as, “[l]earning and teaching tools, methodologies and pedagogical approaches”, particularly in the introduction of improved ICT-based practices including: collaborative learning, blended courses, virtual mobility, and international exchange.

JOVITAL has focused on the identified need, based on scientific evidence, for action to modernise teaching practices in higher education in the Middle East, including Jordan, by introducing new pedagogical and didactical approaches that foster learner-centred teaching, critical thinking, problem solving, group work, and interdisciplinary collaboration (Al-Rashdan, 2009; Galal, 2008). Through intensive exchange with teaching and faculty staff as well as students in Jordanian universities through bi-lateral academic visits with the project coordinator, Technische Universität Dresden in Germany, considerable awareness of the limitations in students’ participation in the learning process was revealed. This was due to the ineffective traditional (mainly frontal) teaching practices which students are exposed to in Jordanian HEIs. In parallel, Jordanian partners expressed a clear willingness to collaborate with European partners’, to adopt proven teaching practices, in order to increase students’ engagement and success in learning. The focus for collaboration was the high priority for pedagogical capacity building, and to effectively exploit available infrastructure and resources, built-up in previous projects, that mainly focused on technology introduction, curriculum development, and quality assurance.

1.2 Project Overview

JOVITAL offers Jordanian HEIs a chance to explore, implement, and disseminate state of the art academic practices to enhance teaching quality and improve learning outcomes for students. A comprehensive capacity building programme will be designed and implemented to facilitate intensive know-how transfer between the consortium members to address the problems of: outdated instructor-centred frontal teaching methods, limited physical academic mobility, and ineffective use of ICT in formal higher education in Jordanian HEIs. Project activities are planned based on solid expertise of European HEIs and extensive research with Jordanian HEIs to achieve the following concrete aims:

- **Introduce and promote learner-centred teaching and learning methodologies:** Social collaborative learning approaches are proposed, based on constructivist and connectivist learning methodologies, to encourage learners' interaction and active knowledge construction for a long-lasting learning impact (Jonassen, 1996). Well-constructed project-based learning activities will be implemented to facilitate permanent active students' engagement throughout the learning process (Blumenfeld et al., 1991).
- **Modernise teaching practices in Jordanian HEIs with innovative technologies:** Virtual Collaborative Learning arrangements are proposed as an effective means to improve students' professional competence, team competence, media competence, and intercultural awareness. JOVITAL will focus on ways to modernise formal higher education in developing countries by integrating students in inclusive blended learning environments using networked social technologies (Tawileh, Bukvova, & Schoop, 2013).
- **Augment internationalisation at home with "Virtual Mobility":** Modern ICT-based international academic exchange approaches are proposed to overcome limited physical academic mobility between Jordanian and European HEIs and to provide Jordanian students and academic staff with an international experience at their home university using affordable flexible technologies (Tawileh, 2016). Well-designed "Virtual Mobility" settings and proven best practices will be adopted to meet partners' needs and priorities (Villar-Onrubia, & Rajpal 2016).
- **Create new possibilities to integrate refugees in Jordanian higher education:** A tested approach to include refugees in German higher education using collaborative technologies will be validated in Jordanian context and adapted to address local conditions.

1.3 Technische Universität Dresden – Lead Partner Profile²

Professor Eric Schoop

Chair of Wirtschaftsinformatik - Information Management at the Faculty of Business and Economics

The Technische Universität Dresden (TUD) is one of eleven German universities that were identified by the German government as an 'excellent university'. As a synergetic university, TUD closely cooperates with external research institutions, including cultural, industrial and social organisations. In recognition of TUD's emphasis on applications in both teaching and research, leading companies have honoured the university with fifteen endowed chairs to date. The TUD prides itself on its international flair and has partnerships with more than 70 universities worldwide. TUD's strategic goals can be found in four fields of action: The internationalisation of studying and teaching, the internationalisation of research, establishing general conditions for the internationalisation of teaching and research, and improving TUD's position on the international stage.

The Chair of Wirtschaftsinformatik - Information Management at the Faculty of Business and Economics, is active in teaching, research, and knowledge transfer at the interfaces between economic, organizational, social, information technology and didactic questions. The Faculty's interdisciplinary team has a solid background in business informatics and business education, and addresses these topics in applied research and teaching practices with focus on:

- Complex university and enterprise learning environments through suitable technology-enhanced learning arrangements and
- Knowledge-based teamwork through collaborative digital information systems

The Chair has a long experience in designing and implementing ICT-based international learner-centred collaborative learning arrangements in formal higher education. Its award winning Virtual Collaborative Learning (VCL) concept has been continuously developed since 2006 following state of the art technical and didactical arrangements and was successfully implemented in over 60 common virtual collaborative courses with various international partner universities around the world. Building on this experience, Virtual Collaboration Learning (VCL) is the model proposed to introduce new communication and collaboration technologies to Jordanian HEIs to enhance the educational process with problem-based learning assignments in a connectivist learning environment, based on constructivist pedagogical methodology.

As the coordinator of JOVITAL, TUD is responsible for the development and implementation of the capacity building programme for Jordanian HEIs, in addition to project management activities. The Chair of Wirtschaftsinformatik – and team, with its technical and pedagogical competencies, will coordinate the following tasks:

- Introduction of new pedagogical methodologies and teaching and learning tools
- Didactical development of training materials
- Designing and implementing online learning platforms
- Scheduling and delivery of staff and tutor's qualification
- Didactical redesign of exiting university courses
- Coordination and facilitation of Virtual Collaborative Learning courses for Jordanian students

² Please refer to Appendix 4 for details of all the European partner profiles (p. 95 - 97)

1.4 Aims of the JOVITAL Project

Overview of the Project

JOVITAL is an international cooperation project co-funded by the Erasmus + Capacity Building in HE programme³ of the European Union during the period October 2017 - 2020 involving four European institutions (Germany, UK, Italy and Slovenia) and five Jordanian universities; namely, Princess Sumaya University for Technology (PSUT), German Jordanian University (GJU), Tafila Technical University (TTU), Al-Hussein Bin Talal University (AHU), and Jordan University of Science and Technology (JUST). JOVITAL aims to foster academic exchange using virtual mobility in order to offer learning opportunities to academic staff, university students and disadvantaged learners in Jordan.

Aim of the Project

The overarching aim of JOVITAL is to foster academic exchange using virtual mobility in order to offer learning opportunities to academic staff, university students and disadvantaged learners in Jordan.

Key dimensions of the JOVITAL project

JOVITAL envisions a multilevel and organic intervention, which articulates a number of key dimensions:

- Teaching and learning practices: identifying best practices, pedagogical approaches, educational resources and ultimately student learning experiences,
- Academic capacity building, resource management, digital fluency,
- Cultural aspects: localising 'state of the art'; awareness of geographical context (rural and urban contexts of Jordan), definition of terms, examination of the educational and also the inter-institutional benefits, incentives required to foster changes in practices in a variety of teaching-learning environments.

The specific aims of the project are to:

- Enable teaching staff to redesign existing courses and apply constructivist methodology (*active involvement in the learning process and knowledge construction as opposed to passively receiving information*) to develop and implement collaborative learning programs using innovative ICT-based learning environments.
- Support HEIs in the partner country in adopting and implementing "Virtual Mobility" as an effective internationalisation at home measure using Virtual Collaborative Learning arrangements build on affordable open source software

The project objectives include:

- Building academic capacity for teaching staff at Jordanian HEIs to adopt modern pedagogical and didactical methodologies in innovative virtual teaching and learning settings.
- Supporting Jordanian HEIs in designing and implementing effective ICT-based internationalisation at home activities and integrating them in a global network for "Virtual Mobility".
- Opening up higher education in Jordan to integrate disadvantaged groups including women, rural areas inhabitants and refugees in immersive Virtual Collaborative Learning environments.

³ <http://eacea.ec.europa.eu/erasmus-plus/actions/key-action-2-cooperation-for-innovation-and-exchange-good-practices>

Target groups for JOVITAL

Academics working in higher education are the main beneficiaries (with a proposed target of 60 academics – 12 participants each attending a set of five training sessions) as well as HE students (with a proposed 100 students as E-Tutors). In addition, perceived disadvantaged groups (refugees based in Jordan) will also be targeted, (although no specific numbers for this have been stated to date. It is proposed that numbers will be estimated with local organisations during a visit to a refugee camp in Jordan.)

Resources to be developed to support local practices

- Accredited multi-partner courses (pedagogy focus) piloted locally and nationally, moving to international courses

National learning hub “VITAL-Hub”

- Jordanian Virtual Innovative Teaching And Learning Hub (VITAL-Hub): A permanent national contact point for capacity building and know-how transfer through regular awareness raising events, train the trainer (TTT) programme, and maintenance of the implemented staff training platform as a Virtual Community of Practice.

Local learning labs “VILLA’s”

- Virtual Innovative Learning Labs (VILLAs): Offering teaching staff and students at each participating HEIs a proper access to modern educational technologies and international collaborative learning environments.. These VILLA’s will complement National Knowledge Stations already in operation in Jordan.

Mobile learning lab “Mobile-VILLA’s”

- Mobile Virtual Innovative Learning Labs (Mobile-VILLAs): A multipliable flexible instrument to ensure nationwide outreach and effective inclusion of marginalised areas and learner groups, especially in rural areas and refugee camps.

2: Work package one - Needs Analysis

The first JOVITAL work package has involved gathering and analysing data to inform the subsequent work packages of the project and is the focus of this Needs Analysis Report. Ethical approval to conduct the study was granted from Coventry University Research Ethics Committee 21/04/2018 ref: P69203.

This Report includes:

- A review of the literature considering international perspectives about key conceptions of online and international learning, with particular emphasis on the Jordanian HEI context
- A country report of Jordan, sharing country demographics as well as contextual higher education practices
- Expert perspectives about education and policy for virtual innovative teaching and learning
- Analysis and interpretation of institutional baseline data and academic survey data from the five Jordanian partners as part of benchmarking and development of an action plan
- Recommendations for capacity building and next stage work packages with HEIs strategies to achieve a continuous improvement in teaching practices towards established international best-practices (*taking into account numerous contextual and influencing factors, as there is more than one way to design pedagogy for this*)
- The outline of a Communities of Practice framework, to facilitate the sharing of experiences and best practice in Jordanian HEIs

2.1 Key concepts and definitions of online and international virtual learning, with particular emphasis on the Jordanian HEI context

A literature context, synthesizing policy and strategy reports, along with the state of the art internationally, including the Jordanian case, to include concepts of virtual innovative teaching and learning.

Introduction

In a world that is increasingly interconnected, interdependent, and diverse, engaging in international and intercultural learning and exchange is a key focus for higher education (HE) (Krutky, 2008; Altbach, Reisberg & Rumbley, 2009). This trend can be considered in relation to several issues. For example, universities are experiencing an increase in their recruitment of international students (Beech 2018; Borjesson, 2017; Fliegler, 2014); online international learning is increasingly becoming a core pillar of university collaborations for globally networked learning (Villar-Onrubia & Rajpal, 2016; Redden, 2014; Bell, 2016); and open courses such as Massive Open Online Courses (MOOCs) target learners, regardless of their geographic and cultural background (Maringe & Sing, 2014; Brahimi & Sarirete, 2015; Affouneh, Wimpenny, Ra'Fat Ghodieh et al., 2018). In addition, in countries like Jordan that, due to their demographic and socioeconomic context, are experiencing a massification phenomenon with respect to learners accessing higher education (HE), responsive, effective education processes are required to maintain quality learning experiences (Affouneh & Amin Awad Raba 2017; Hornsby & Osman, 2014; Foley & Massingila, 2014; Dian-Fu & Yeh, 2012).

HE needs to enable learners to develop the knowledge, skills and competencies they will require in a digital age (Ossiannilsson, 2012; Uvalić-Trumbić & Daniel, 2013, 2014; Bates 2015). Similarly, academics need to be skilled in facilitating virtual intercultural exchange alongside designing teaching and learning materials to prepare graduates for 21st Century citizenship, global employability, creativity, collaborative problem-solving, and self-directed learning (Groff, 2013).

In the following sections, we trace key themes from the literature regarding the above considerations, to include: e-learning and examples of underlying pedagogies; models of delivery of e-learning; and issues pertaining to capacity building for academic staff. We then focus on internationalisation of the curriculum, and models in support of online international learning. Finally, we review some of the key considerations when considering academic capacity building for facilitating online intercultural exchange.

To conduct this literature review, a variety of scholarly online resources were used (Google Scholar, EBSCO Host, SCOPUS, Academic Search Complete, etc.) to search key words related to Online Learning, Online International Learning, Quality Assurance and models, and the specifics of the Jordanian Higher Education landscape. A particular time frame from 200 – 2018 was searched to cover the period during which e-learning has developed rapidly. Certain information relating to the use of online learning has been drawn from well-known academics already known to the authors of this paper, particularly in relation to intercultural elements within learning. Finally, factual information was obtained using web searches with specific key words to find reputable, preferably governmental (or related) sources. (See Appendix 1 for the list of search terms/topics used). All references are provided at the end of the Report.

E-Learning - Headlines from the Literature

Technology has had a significant impact on teaching and learning, particularly since the advent of the internet and the ubiquity of portable, electronic devices. The pace by which technology has forced teaching and learning practices to change is also momentous. Over the last 30 years' pedagogic practices have gone from piloting media content in classrooms to slowly sharing relevant articles and information through electronic mediums, to fully fledged lessons and degree programmes offered online (Marshall, 2012; Sadeghi, 2018; Buhl Andreassen & Pushpanadham, 2018). Technology is now central to the teaching process, with various degrees and forms of what is broadly referred to as e-learning taking place across the educational spectrum (Sangra Vlachopoulos & Cabrera, 2012). The internet has opened up the "possibility of providing a world class education to anyone with a broadband connection" (Nguyen 2015:310). Online elements of courses and even 100% online programmes have become commonplace in the west and are seen as being "of equal value to on-campus programmes in terms of entry criteria and overall workload. The only difference is in the way the course is delivered" (Edinburgh University⁴).

Educational systems have evolved, adapting technology in varying forms to teaching and learning; though the pace of accompanying pedagogy seems to be slow. This is probably because e-learning is defined in many ways; first by associated technology used to deliver it (Marquès, 2006); secondly by the mode of delivery internet (E-learning portal, 2009); and third by the kind of communication, for example, synchronous or asynchronous (González-Videgaray, 2007). However, a definition which emphasises the "learning" dimension is also important as e-learning cannot simply be understood as content sharing Online. Jereb and Šmitek, (2006) place an emphasis on educational processes highlighting the fact that communication, technology and mediums only mediate learning. E-learning should *improve* "learning" (Ellis, Ginns & Piggott, 2009).

Cidral et al (2018) refer to e-learning (also known as online learning) as "a web-based learning ecosystem for the dissemination of information, communication, and knowledge for education and training" (pg. 242). This is a broad definition, purposefully included here as it encompasses the sharing of information, interaction and educational processes.

The use of online learning is growing in popularity, with the number of students engaging in it at HEIs increasing by almost 320% between 2002 and 2011 (Stack, 2015:1). It is estimated that this number has dramatically increased since 2011. As e-learning has become ubiquitous the focus has shifted to quality and effectiveness (Louw & Michau, 2018). The benefits of using e-learning are mostly linked to volume, reach and time.

E-learning provides opportunities to reach more learners, including those that have been disadvantaged by geography and socio-cultural issues. It allows learners to learn at their own pace. Yet, as Buhl Andreassen and Pushpanadham (2018) contend, e-learning is not consistently underpinned by good pedagogy and is often delivered ad hoc. This may be due to a lack of training, poor resources and weak infrastructure as well as pressure on staff and ill-prepared students.

⁴ <https://www.ed.ac.uk/studying/online-learning/postgraduate>

Online learning can be an effective alternative to in-class learning. In order to be successful, however, all participants need to be engaged and the teacher/ facilitator cannot take a 'hands-off' approach, rather, careful monitoring is required to ensure that the learning goals are understood and are being achieved (Vonderwell & Zachariah, 2005:225).

There is no single definition of on-line learning, which can lead to inconsistency in implementation and interpretation of the term. Broadly speaking, it is learning that does not utilise the 'teacher at the front' model and allows students to make use of internet-enabled technology for their learning. In order to be effective, teachers / facilitators employing online learning need to be aware of the intended learning gain. Reflection is also needed to back up the action (Anderson, 2008:111). Online learning should not therefore be used as a method to reduce student-teacher contact time, and the learning experience needs to be crafted carefully.

Student satisfaction may be lower for online-only classes, with reports that surveys and metrics to measure satisfaction can be lower for online learning, particularly if the learning activities include online testing. This can be due to expectations of the learning experience or students not being used to this style of learning (for example see, Parsons-Pollard et al. 2008).

There are questions relating to fairness and concerns relating to cheating caused by online learning (Stack, 2015:14). It is suggested that certain course elements (particularly exams) are open to abuse due to the nature of the learning, although more research is required to evidence this (ibid).

Underlying pedagogy: E-Pedagogies

In order to ensure that the quality of teaching and learning is maintained Serdyukov (2015) argues that a comprehensive, research-based, and consistent theoretical framework is required, which provides guidelines for effective design, planning and implementation of e-learning programmes. Additionally, Mehanna (2004) suggests that e-pedagogy, like traditional pedagogy, has to provide a research-based understanding of the purpose of education and how considerations for the processes learners go through personally, cognitively, socially and behaviourally influence their learning. Equally, e-learning requires high quality teaching because of the complexities involved in delivering materials using several media. Furthermore, the skills required to ensure students are motivated, engaged and capable of participating in transformative learning practices are more complex than those used in didactic classrooms.

Four major educational theories underpinning e-learning include:

- A. Constructivist learning theory (Schell & Janicki, 2012)
- B. Collaborative learning theory (Harasim, 2012)
- C. Behaviorist learning theory (Skinner, 1957)
- D. Cognitivist learning theory (Piaget, 1936)

These theories can be used individually to emphasize a particular form of learning. However, several theories may be combined, especially if the educational theories emphasize the agency of the learner as an active participant rather than a passive receiver. Examples of these approaches to learning are provided below -

- A. Constructivist Model: wherein knowledge is co-constructed using e-tivities – activities/resources/scenarios and dialogic practices. Lecturers work as facilitators to co-construct knowledge with students.

The (re)conceptualisation or learning cycle.

Figure accessed from Mayes (2001:469)

Conceptualisation: refers to the users' initial contact with other peoples' concepts - interaction between the learner's pre-existing framework of understanding and a new exposition.

Construction: refers to the process of building and combining concepts through their use in the performance of meaningful tasks.

Dialogue: The conceptualisations are tested and further developed during conversation with both tutors and fellow learners (Mayes 2001).

B. Collaborative (a Community of Inquiry Model): here learning is about studying together, making use of problem-based scenarios for example, with careful scaffolding by lecturers using both cognitive and affective domain prompts to enable learners to engage in social learning while working through a task.

Figure accessed from: Virtual book E –pedagogy for teachers in Higher Education
<http://www.virclass.net/eped/>

C. Behaviourist/Cognitivist/Constructivist/Collaborative: A Learning Environment model: here the focus is on creating collaborative learning spaces using computer supported interfaces and platforms to trigger discussion

Figure accessed from Barefah, A. and McKay, E. (2015) Designing for Online Learning Environments: Towards an E-pedagogy Development Model. IEEE Conference on e-Learning, e-Management and e-Services

As exemplified above, e-learning is shaped by many pedagogical considerations, summarized below using Ryan and Tilbury's (2013) framework to include:

1. *Learner empowerment*: Students are actively involved in curriculum development and processes of 'co-creation'. This means lecturers change roles, challenging learning relationships and the power frames that underpin them
2. *Future-facing education*: learning is viewed as transformative, a focus on engagement and change processes with considerations for how learning empowers learners
3. *Decolonising education*: "deconstructing dominant pedagogical frames that promote only Western worldviews, to create experiences that extend inter-cultural understanding in the HE system and the ability to think and work using globally sensitive frames and methods" (Ryan & Tilbury, 2013:4)
4. *Transformative capabilities*: learning which moves beyond knowledge creation towards agency and competence, using holistic pedagogies and transformative approaches to learning.
5. *Crossing boundaries*: using integrative and systemic approaches to pedagogy in HE. Enabling inter-disciplinary, inter-professional and cross-sectoral learning, to maximise collaboration and shared perspective (Wanner and Palmer 2015)
6. *Social learning*: developing cultures and environments for e- learning that harness the emancipatory power of spaces and interactions outside the formal curriculum, particularly through the use of new technologies and co-curricular activities (Ryan & Tilbury, 2013: 6)

These approaches highlight the significance of e-learning as a transformative learning practice and show that the benefits of e-learning can be diminished if delivery is poor. Institutions are therefore required to carefully consider the logistics and structure of the e-learning process including economic considerations, as e-learning can be expensive to deliver especially if different learning styles are to be considered, and bespoke learning resources designed and used.

Developing Institutional Capability: Considerations and challenges

E-learning can be a significant challenge for HE institutions, particularly, those institutions that have not explored interactive learning pedagogies or engaged in distance learning or other

practices which involve engaging students outside the didactic models of classroom teaching. Some of the major barriers in ensuring that e-learning provision in HE is of high quality are:

1. Awareness of e-learning
2. Access to the adequate infrastructure, tools and resources
3. Training of staff
4. Availability of relevant support staff – IT, developers, technologists
5. Learner engagement
6. Student expectations and satisfaction

- *E-Learning and models of delivery*

E-Learning can be delivered through a number of mediums and in various formats – for example, computers and mobile devices are used regularly as these tools have increasingly become cheaper. Large platforms or Learning Management Systems (e.g. Moodle or Blackboard) are increasingly being used. A number of bespoke applications and resources are developed for discipline specific learning and the technology to deliver e-tivities, resources, forums, videos, etc. continues to evolve. Novel applications like virtual and augmented reality are also being used to make e-learning more interactive. However, the efficacy of the mediums and formats have been called into question (Marshall 2012; Louw & Michau, 2018). Once again, the primacy of establishing strong e-pedagogies is highlighted by Price and Kirkwood (2013), noting that ‘content dumping’ on forums or platforms cannot qualify as quality teaching and learning.

When considering effective educational technologies, the appropriate pedagogy should be considered as well as technical and educational characteristics, the self-efficacy of students, availability of technologies and access by students including online learning technologies, social networking tools and mobile learning tools.

Key areas of e-learning delivery which that influence effectiveness include:

1. Instructional approaches: design and facilitation including the role of lecturer
2. Educational systems: processes planning including group and peer learning
3. Content presentation: how, what, where, when and how much information is included and shared
4. Inquiry and problem solving: transformative and reflective
5. Interaction and socialization in learning: communities of inquiry, enabling e learning environment
6. Teaching and learning tools: lateral flow of knowledge, collaborative tools
7. Equipment: availability and access
8. Learner engagement: disposition and preparedness of learner
9. Assessment: both formative and summative

One of the most important benefits of e-learning is the choice it affords to students to study at a convenient “pace, place and mode” in order to ensure that the quality of teaching and learning is maintained (Serdyukov, 2015:15). The mode of delivery can enhance or inhibit this affordance. Properly designed e-learning programmes allow for learner-centred flexible approaches to HE education. As such, a key area for consideration is the role of the academic / facilitator, and their skills and competencies in e-learning, which the next section moves on to discuss.

Buhl, Andreasen and Pushpanadham (2018) suggests e-learning fragments lecturers' traditional roles. They are no longer the sage responsible for "planning, practice and reflection", rather, such activities may now be "performed by different actors with different areas of responsibility" (p. 180) Many institutions have had to introduce support for the technical and design areas of delivering e-learning –and roles have emerged in terms of learning technologists, e-developers, etc. (Veletsiano 2011).

In addition, lecturers have to adopt new skills and techniques so they can prepare and engage their learners to become reflexive learners in e-learning environments. This is challenging because though modern learners are accustomed to the technology, they are not necessary adept as engaging in transformative learning and lack the kind of digital capital that enables them to be co-creators of their own learning (Warner & Palmer, 2015; Sadeghi, 2018).

Institutions as such, have the responsibility to ensure that staff are adequately equipped to perform their role, and equally learners need to be supported to study online, with the necessary skills of autonomy and self-efficacy. The preparation of learners is a considerable task, not least because pre- university education does not typically prepare learners with these skills. E-learning also requires that learners have communicative and networking tactics to engage in such online learning spaces.

Furthermore, institutions need to concern themselves with ensuring that assessment practices are suitable for e-learning. Assessment needs to align with the evolution of e-learning. Students of the 21st century need to develop requisite skills (problem-solving, team work and communication skills) for the workplace (Warner & Palmer, 2015). As such, assessments should be varied and flexible.

Key issues for institutions:

1. Learner skills: student independence, autonomy, self-efficacy, student digital literacies
2. Role of lecturer/facilitator: teaching-learning conversation, multiple facilitators,
3. Learning techniques: guided didactic conversation, socio-communication, synchronous and asynchronous forums
4. Tools and resources: e-tivities/scenarios/interactivity,
5. Infrastructure: access to resources, learning resources, learning environment and spaces

In summary, e-learning is dynamic and constantly evolving as new technologies and social processes become available; this means institutions have to be agile, modifying their systems and infrastructure, upskilling the workforce and adequately preparing their staff and their learners (Serdyukov, 2015).

Internationalising the curriculum:

Internationalising the curriculum is a feature of the portfolios of most HE institutions. Whilst the use of technology to enable virtual exchanges and collaborative assignments between geographically distant classrooms is not new, efforts are increasing to scale up these kinds of activities (Wimpenny, Knowles, Speculand et al., 2018).

Online International Learning:

Online International Learning (OIL) is a specific form of online learning that incorporates elements of intercultural learning alongside subject-specific learning outcomes. Also supporting internationalisation through an internationalisation at home (IaH) model, OIL is sometimes also

referred to as 'virtual mobility', 'Collaborative Online International Learning' (COIL) (Villar-Onrubia & Rajpal, 2016). Where there is more of a specific focus on the intercultural aspect of the interaction, this is sometimes referred to as Online intercultural exchange (OIE), 'telecollaboration', 'virtual exchange' or 'e-tandem learning' (Lewis & O'Dowd, 2016:3).

OIL helps students to develop a series of attributes, qualities or competences that may enable them to address the challenges of living and working in contemporary societies – as citizens and professionals – and to assume associated responsibilities (Villar-Onrubia & Rajpal, 2016). For example, OIL prompts students to pursue and persist in online learning spaces whilst also requiring them to take responsibility for organising their own learning and that of others through effective time management, and working to overcome obstacles, which arguably provided them with space to become more aware of their own learning process and needs (Dugdale, 2009).

When considering OIL, the process should focus on academic co-operation for the benefit of all involved (De Wit, 2016). Leask and Carroll argue that the focus on intercultural elements does have a tangible and significant impact on student growth and improves student willingness to engage with people from other cultures (2011:653). Leask and Carroll also suggest that successful OIL activities do not require extensive re-writes of existing teaching and learning activities and impact can be achieved by incorporating "reflective practice and seemingly small adjustments to a program" (ibid).

Although the educational content may be relatively easy to create, there are a number of practical considerations to consider when running OIL activity. As the focus is on working with an international partner, issues such as subject area match and time zones are important factors. It is useful to consider communication and format and to discuss this with the partners. There are two main methods of interaction via synchronous and asynchronous activities. Examples of synchronous activity are real-time conversations, seminars and debates where both partners are able to contribute at the same time. Asynchronous interactions may be required where there are large time differences, and often include activities such as sharing pre-recorded videos and forum debates (Villar-Onrubia & Rajpal, 2016).

There is no single method of producing and delivering an OIL activity and teaching and learning outcomes should be aligned to the subject area, rather than just being a social interaction. Assessment of the intercultural aspects is tricky and Deardorff argues that it is challenging to adopt a 'one size fits all' tool to specifically measure intercultural learning gain (2011:74). As the term 'intercultural competence' can have different interpretations and applications in different subject areas, it is not helpful to overly focus on the intercultural dimension when assessing students and attempting to measure intercultural learning gain. That being said, it is possible to include intercultural competence as a learning outcome to assess alongside the subject-specific elements. Deardorff suggests that student reflection in relation to the subject area is an essential component of OIL activity and assessment activity should be linked to specific learning outcomes (ibid:77).

Online International Learning can be an effective way of introducing and developing intercultural competences into teaching and learning. As suggested by Leask, developing OIL activity does not necessarily require extensive work to create, but it is important to think about which partners to use. As we have seen, there is a need to tailor the content to the subject area and it is important to think carefully about how outcomes are measured; a one size fits all approach to assessment and measurement is not likely to be helpful.

'State of the Art'

Coventry University (CU) has been at the forefront of OIL in UK HEI, delivering internationally recognised projects and awards in recent years, (see for example, Re-imagine Education Award 2016⁵). During 2016-2017, 3035 students at Coventry participated in OIL, working with 97 international partner institutions, across 42 countries. CU has experimented with a number of different methods of achieving meaningful interaction. Platforms used at CU have included: Open Moodle, Skype, Facebook, WhatsApp Groups, Adobe Connect and other platforms (Orsini-Jones, 2017; Wimpenny, Lewis, Roe, Desiron, Gordan & Waters, 2016). These solutions allow for interactions on almost any internet-enabled device – mobile phones, tablets, laptops and desktop PCs. In terms of technology, it is possible that the speed and reliability of the broadband is more important than the technology. A recent study of the speed of broadband within the United Kingdom found that poor broadband speed and connectivity can have a significant and material impact on a student's ability to study and engage with online learning (Morrison, 2018).

Online components often require specific compatibility for software to work. Connection to broadband is essential. The ability to use multimedia, rather than text-based interactions will be dictated by broadband speed. Synchronous activities may not be possible if one or more of the participants has poor internet speed. Other institutions in the UK are adopting similar models, but some use alternative software solutions such as WebCT and blackboard (see Derby, Anglia Ruskin, Nottingham Trent etc.). In a commercialised environment, there does not seem to be a single forerunner for software platforms, but considerations should be made for functionality and cost. Moodle, for example, is open source and so is free. Most web platforms support the 'standard' browsers: Google Chrome; Internet Explorer (now defunct); Edge (replaced IE); Firefox; Safari. However, technology does move quickly and one software solution may not be relevant in 5-10 years' time (Bakia et al 2012). As an example of this, the once-popular Internet Explorer is no longer supported by Microsoft. However, their newer browser, Edge, is not as widely supported as IE is in the wider world and has very low adoption rates (Browser Market Share, 2018). This means that those who use online learning and online international learning need to be aware that there is a need to modernise on a regular basis (<10 years) in order to keep up with current technological trends.

Another feature of modern online learning is the use of social media. Dlamini (2017) argues that social media is a credible forum for interaction between students and students and teachers and students and can facilitate research. That said, there are privacy concerns with major social media platforms such as Facebook and steps need to be taken to protect those involved. Chugh (2017) recommends that students and staff alike be trained in protecting privacy online and private forms, such as a Facebook Groups should be used, rather than attempting to use anything that might be public facing.

Facilitating intercultural exchange / interculturality in online learning

In considering the role of education in preparing students for a world that is increasingly interconnected, independent and diverse, online (international) (and intercultural) learning and communication⁶ offers students multiple opportunities to learn how to form and maintain

⁵ <https://telepresenceintheatre.coventry.domains/awards/coriolanus-online-wins-the-reimagine-education-arts-humanities-gold-award/>

⁶ Intercultural communication is used here to refer to the communication amongst learners from diverse backgrounds

relationships, and work co-operatively with people across different backgrounds (Krutky, 2008). Students need opportunity in the curriculum to develop skills in their awareness and knowledge about others, even on campuses that explicitly promote diversity or internationalisation initiatives (Otten 2003: 14). As already mentioned, intercultural learning can have a tangible and significant impact on student growth, and offer ways for students to improve their tolerance and willingness to engage with people from other cultures (Leask & Carroll 2011). Indeed, tools such as the Intercultural Sensitivity Scale, developed by Guo-Ming Chen and William Starosta measures intercultural sensitivity and the confidence and willingness of learners to understand, appreciate, and accept differences among cultures (Chen & Starosta, 1998). Yet, as argued by Smith (2010) intercultural learning should not be viewed as an add-on to existing pedagogy and curriculum, as this may result in students not seeing the relevance or connection of such learning to their developing disciplinary perspectives, and the communication and interaction processes with others where it is required. Academics therefore, need to be skilled in both how to design virtual learning and in how to facilitate effective virtual interaction, with the necessary intercultural knowledge, skills, resources and time required to scaffold learners' contributions and perspectives in order to stimulate students' reflection on their biases, privileges and assumptions (Kumagai & Lypson, 2009).

It therefore follows that online (international) learning requires an infrastructure of technical and pedagogical support for students *and* educators, and that specific attention should be given to the types of courses that stimulate creative ways of mentoring students, not least in their interactions and dialogue with others (Rogers, Mulholland, Derald et al., 2011). The design of such learning, is not simply a case of transferring teaching and learning materials used in face to face interactions onto online platforms. Not should we assume that being able to facilitate communication in face to face exchanges, results in such skills being equally effective in virtual learning environments (Yang, Kinshuk, Yu et al., 2014).

In summary of this section, engaging learner's diverse viewpoints within online learning approaches such as OIL, requires not only critical thinking but also intercultural attitudes and skills such as valuing diverse perspectives and managing one's anxiety. Indeed, this type of education practice can at times take academics outside their comfort zone (Wimpenny, et al. 2018). Working with and managing students' expectations, is informing in many ways, and lecturers need the necessary skills to appreciate and understand which educational (Yang et al. 2014), cultural (Lixian & Martin, 2017) and language (Yang, 2013) related processes are at work in on line collaboration, not least in terms of how this approach to learning sits within the broader context of a course and educational culture (Wimpenny, Tombs, Gordan, et al., 2015).

Focus on Jordanian case: Policy and strategy

In the Middle East e-learning has developed exponentially in the last 20 years. Much of the growth is focused in the Emirates, Israel and Saudi Arabia. Jordan has seen modest growth, initially hampered due to lack of access and availability of infrastructure (Mizra & Al-Abdulkareem, 2011). More recently, issues associated with quality assurance, efficacy and learner engagement have been of note (Weber & Hamlaoui, 2018.) It is therefore important to underpin e-learning with relevant e-pedagogy and ensure that lecturers have the qualifications and skills to deliver high quality e-learning.

Though there are a lot of commercial products delivering e-learning resources they are not always applicable to the Arab world. Materials are also not available in Arabic and the socio-cultural context which is seen as supremely important in education provision is lacking. This requires investment in bespoke Arab solutions and offerings that meet the need of the learners

in the Middle East and at the same time exposing them to other perspective and cultures around the world.

In Jordan e-learning has been associated with removing barriers for female learners in remote locations and providing opportunities to upskill the existing workforce (Al-Rashdan 2009). However, the challenges of ensuring high quality training is offered has been discussed by employers leading to restrictions.

Key policy considerations around e-learning takes place at national levels. However, commercial institutions are now offering a vast array of e-learning solutions for individuals and HE. The advent and explosive growth of Massive, Open Online Collaborative Courses – MOOCs, means that e-learning transcends boundaries relatively easily. Although national policies can still constitute barriers if access is limited to the internet or other services. These policies are driven by socio-cultural, religious and socio-political agendas in the Middle East. In terms of the impact on Higher Education, there is a current cap on online learning within university study. Courses cannot contain more than 25% online learning.

There is a growing emphasis on using state-of -art technical infrastructure and design to captivate learners. More applications are being designed exclusively for learning and new technologies are adapted for e-learning relatively quickly in the modern age. Many institutions now view e-learning as a strategic tool which can be used to boost their reach, reputation and finances and there is increased competition to deliver e-learning programmes across the world, which has many implications for HEIs who do not engage. Students can attend many programmes without leaving their country, and this is beneficial for vulnerable and disadvantaged groups who have little access to HE (Affouneh et al., 2018). Nonetheless, there needs to be strategic recognition by governments in regions where there is no strategic oversight over quality, language, development and learner satisfaction for quality provision of online learning.

Various stakeholders are needed to ensure e-learning provision is of high quality, and relevant to employers and effective. Such stakeholders include students, employers, lecturers, affiliated support staff, HEIs, education regulatory bodies, tech providers, and software providers, etc. (Wagner Hassanein & Head, 2008). The role they play invariably influences e-learning provision and it is important that governments take ownership of the strategic management of the development of e-learning so as to ensure their citizens are not disadvantaged in a global system where knowledge and skills can spread so effortlessly.

Favourable Factors

There has been a strong implementation of OIL in institutions such as CU and this offers a strong basis on which to build models of OIL in Jordan. There are also many examples of successful OIL activities from America, Europe and Australia.

Connectivity should not be a prohibitive issue within Jordan, with internet penetration at approximately 74% of the population (Internet World Stats, 2017). However, there is a digital divide in Jordan, with 18-35 year olds and those in education being far more likely to be internet users than the older population or those with less education (Freedom on the net, 2017). Whereas the typical university demographic indicates that students are 'internet savvy.' There are some similarities in social media usage in Jordan when compared to the west. Facebook is by far the most used social media platform, followed by YouTube (Globalstats, 2018).

These are both recommended platforms for online education by Dlamini (2017). With regards to OIL collaboration with JOVITAL partners, both synchronous and asynchronous interaction is feasible with Jordan and Europe, with only a two-hour time difference between the UK and Jordan.

Potential Challenges

Jordanian Law currently limits online learning to a maximum of 25% of course content. If there is no appetite to change this at a legislative level, ways of maximizing online learning within the cap must be found. In terms of pedagogy and teacher training, the demographic trends indicate that older demographics (who are more likely to be tutors) may not be as internet aware as those who are younger (who are most likely to be students). The results of the pilot survey may highlight how this impacts on academics within Jordan as there is a possibility that the students' online competencies and capabilities may exceed the lecturers', in some cases.

Continuing on the demographic theme, those from lower income backgrounds are 30% less likely to have access to or are familiar with using the internet than those on higher income (Freedom on the net 2017). A prerequisite of E-learning/Online learning is access to broadband, so accessibility may be a barrier to certain learners. Beyond this, there are some indications that the level of technology (such as the number of computers available to students) differ between institutions in Jordan. Further research is necessary to ascertain what technologies are available to these universities as this will impact the accessibility and efficacy of embedded online learning.

In terms of learning platforms, not all social media and VOIP applications are consistently open in Jordan and there are some differences in social media usage to use in the west. Twitter, for example, has a low penetration rate at 9% (Doha Film Institute 2017). This indicates that western models for online student interaction are not likely to be able to be adopted wholesale and will need reworking for the Jordanian example. Similarly, there are some differences in connectivity of instant messaging applications:

“Starting June 2015, the Jordanian government ordered internet service providers to block access to WhatsApp, Instagram, and Viber on days that secondary school students sat for their national exam. Multiple users reported the block continued to be effective during exams in both 2016 and 2017, even though the restrictions were delimited to locations nearby examination halls and limited to a couple of hours” (Freedom on the net 2017).

Again, if pre-existing models of OIL are adopted, consideration will therefore need to be made regarding how students interact as certain avenues may be restricted.

On a socio-cultural level, there may be challenges in terms of expectations and learning cultures. In 2017, the Open University attempted to deliver online courses to Syrian Refugees in Jordan, which was not well received due to the lack of interactivity (Bothwell, 2017). There may be a need to further investigate learner expectations in the Jordanian situation, so elements of expectation management and training on different pedagogies may need to be factored in.

Finally, little research has been conducted in terms of wider inclusivity and disabled students. Bakia et al notes “Online learning offerings should be made accessible to students with disabilities, doing so is not necessarily cheap or easy.” (2012: viii). Given that there are indications of differing levels of technology across universities, considerations will need to be made on how accessibility for all might be achieved.

Conclusion

In summary, virtually enhanced (international) teaching and learning continues to be a priority for further development educationally and professionally, with higher education needing to explore and embrace a range of pedagogical approaches that will enhance and invigorate learning to ensure currency, interest and diversity within the curriculum.

It is apparent that the international mobility of university students is still considered a desirable aspect of the internationalisation agenda in higher education, however, researching the subject learning students can experience from OIL projects continues to add weight to pedagogy focused on designing translocal learning opportunities, as part of 'internationalisation at home' initiatives.

Further, there is need for programmes to keep up with practice that is constantly evolving and for course teams to consider approaches to digital / virtual pedagogies which adequately equip students to embrace uncertainty if graduates are to have a chance of being able to respond to the requirements of their future role.

2.3 Higher education policy and practice, and the role and responsibilities of a 21st century university

Professor Adel Tweissi, Jordanian Education Ministry

Professor Tweissi, was invited to share his perspectives about education, National policy, and the role and responsibilities of a 21st Century University, and with this, the opportunities JOVITAL provides in progressing innovative teaching and learning for international and virtual exchange for Jordanian Higher Education Institutions.

The role and responsibilities of a 21st century university

As knowledge is developing and changing so rapidly, the 21st century university should be dynamic-enough to be able to respond to such changes when they occur. Currently, responding to the requirements of the 4th Industrial Revolution⁷ is a major responsibility of the 21st century university.

The importance of ICT innovative teaching and learning for Jordanian Higher Education Institutes

We are about to launch the National Centre for Electronic Learning, an Educational Open Resources Centre in Jordan. ICT is the medium which will enable the Centre to perform its duties as the (30) universities in Jordan have already founded their own satellite Centre's, which will benefit from the National Centre.

The vision of HM King Abdullah II that "Jordan will become an IT hub for the region" has been a rallying call to all Jordanians to pull together to realize His Majesty's vision for the future benefit of all citizens. Critical to the ability of Jordan to enter the knowledge economy is the preparation of the country's key advantage – its human resources (National eLearning Strategy for Higher Education Jordan)

The importance of international and virtual exchange for Jordanian HEIs

Internationalization is a key issue for Jordanian universities as this will increase their capabilities to assume better world rankings. Universities in Jordan are participating in EU programs of student mobility. They are also increasing the number of international students in their student bodies. The Ministry is supporting their efforts in this regard in many facets.

How to address the training needs of academics in their ability to best support students in online teaching and learning for intercultural virtual exchange, including the sharing of best practices

Jordanian universities have Faculty members who belong to two generations: old and young. The younger generation are well-skilled to use ICT in their teaching. The Ministry has started to conduct training courses to support those Faculty members, from older generations who taught differently. There will be 'training of trainers' who will pass on their experience to their colleagues through the Faculty Development Centres which already exist in universities. The British Council is assisting us in this regard.

⁷ <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

2.4 The Opportunities and challenges of using virtual mobility in order to offer learning opportunities to academic staff, university students and disadvantaged learners in Jordan

Prof. Ahmed I. Abu-El-Heija, Professor of Electrical and Computer Engineering, Senior Consultant for ICT and Education, Head of the Erasmus National Office, Jordan.

Professor Ahmed I. Abu-El-Heija, was invited to share his perspectives about the field of international and online learning and the opportunities JOVITAL in progressing this agenda for Jordanian HEIs.

Article 3 of the Law of Higher Education and Scientific Research in Jordan (Law no. 17, year 2018) calls for enhancing the international competitiveness of higher education institutions through the development of capacities of their academic and administrative staff members, ***keeping abreast of the developments in the information and communication technologies and incorporating these into the learning and teaching process as well as research***, and securing international accreditation for the institutions and programs.

The Bylaw for academic practice at universities and colleges in Jordan (Bylaw no. 130, year 2018, based on Cabinet decision on 24 October 2018) includes paragraphs related to technology and e-learning. In particular, article 7 includes the conditions and criteria for academic staff to obtain the license for academic practice. These stipulate that the staff member should have passed specialized training in teaching and learning methodologies, using modern tools for teaching and ***educational technologies***, as well as ***the use of open source electronic course platforms***.

Based upon the above, adopting and using e-learning techniques and virtual learning is clearly necessary to keep up-to-date with technologies, and to achieve better outcomes for graduates. We understand that the aim of JOVITAL is to foster academic exchange using virtual mobility in order to offer learning opportunities to academic staff, university students and disadvantaged learners in Jordan. This fits very well into the Jordanian context, as well as the most recent regulations in higher education in Jordan.

3. Jordan Country Report

Country demographics

Capital: Amman

Official language(s): Arabic

Population: at 1 November 2015 census: 9,531,712

According to Department of Statistics: Total population: 10,053,000 female: 4,730,000 Male: 5,323,000

Connectivity: In 2011, it is estimated that there are 2,209,229 Internet users, which represents the 35,74 % penetration rate in the population and a 34% growth rate since 2000 (<http://www.journaldunet.com/web-tech/chiffres-internet/jordanie/pays-jor>)

Higher Education in Jordan

Types of Higher Education Institutions (Public/Private): Jordan has 10 public universities (see below), 21 private universities and 54 community colleges, of which 14 are public, 24 private and others affiliated with the Jordanian Armed Forces, the Civil Defence Department, the Ministry of Health and UNRWA.

Number of students graduated: The number of graduate students in Jordan is about 17 540. Out of these, 8 390 are females. Thus, the female ratio is about 48 %. Out of the graduate students, 13 054 students (about 74 % of the total) study for Master degrees, 2 116 students (about 12 % of the total) study for a Doctorate and about 2 370 students (about 14 % of the total) study for a Higher Diploma (data up to 2011).

Legal framework of the Higher Education system:

The Jordanian Council of Higher Education was established in 1982 in response to the need for regulation and planning of higher education policies and coordination among Jordanian public universities. The Council formed the core for the Ministry of Higher Education & Scientific Research, which was established in 1985. The Ministry and the Council undertook the mission of applying the government's educational policies at post-secondary level, and of legislating up-to-date laws on higher education.

The Ministry of Higher Education was annulled in 1998, but was re-established in August 2001 according to instructions by His Majesty King Abdullah II, and renamed as The Ministry of Higher Education and Scientific Research. The New Higher Education Law in Jordan: Consequently, a new Law on Higher Education was endorsed: Law no. 41 for the year 2001, which cancelled the previous Law. By this law, a Ministry of Higher Education & Scientific Research was established, and took over supervising all higher education issues, and includes the following Councils:

- The Higher Education Council (which comprises the Higher Committee for Scientific Research)
- The Accreditation Council

The new Higher Education Law assigned the Ministry of Higher Education & Scientific Research the following prominent functions:

- To implement the general policy of higher education in Jordan.
- Co-ordinate between higher education institutions and public and private centres for
- Consultations and research.
- Sign cultural and scientific agreements in the field of higher education and scientific
- Research.
- Represent Jordan in international conferences and symposia on higher education.
- Recognize foreign institutions of higher education and equating certificates issued by them.
- Set student eligibility rules for scholarships inside and outside Jordan.
- Follow up the affairs of Jordanian students abroad through Jordanian cultural counsellors.

The Law enables the Higher Education Council to carry out the following main functions:

- i) Formulate the general policy of higher education in Jordan
- ii) Endorse the establishment of new higher education institutions
- iii) Issue instructions concerning administration and finance of the higher education sector
- iv) Coordinate between local higher education institutions
- v) Evaluate the quality of higher education in terms of sufficiency and efficiency
- vi) Determine the basic admission requirements at higher education institutions

Under the jurisdiction of aforementioned Law, The Accreditation Council carries out the following major duties:

- To define the regulations for the accreditation of higher education institutions, amending and developing them in light of the general policy of higher education.
- Supervise the performance of higher education institutions and their commitment to
- Applying the rules of accreditation.
- Appoint the specialized committees needed to carry out the tasks of the Accreditation Council.
- Ensure that institutions of higher education reach their pre-defined goals through
- continuous evaluation of their programs

First stage: Undergraduate level - Most universities in Jordan follow the English-American education systems and are associated with many American and English universities. Bachelor's Degrees normally take four years.

Second stage: Postgraduate level - A Master's degree is awarded after a further one to two years' study following a Bachelor's Degree. It can be obtained either by course work and a thesis (c. 24 credit hours of courses and nine credit hours of research), or by course work (c. 33 credit hours or 3 credits in UK (10 hours per credit) and approx.. 1 ECT considering 1 = 25 hours) and a comprehensive examination.

Third stage: Doctorate - A Doctorate Degree is awarded after three to five years of further study and the submission of an original dissertation. It requires, depending on the subject, 24 credit hours of course work and 24 credit hours of research.

Non-traditional studies: Distance higher education - This type of education is offered at the newly established branch of the Arab Open University.

Governance Bodies:

Each university has a Board of Trustees (BoT). The BoT of a public university consists of a Chairman and 12 members, while the BoT of a private university has 14 members in addition to the Chairman. The BoT of a public university is appointed through a Royal Decree upon recommendation by the Prime Minister, while the BoT of a private university is appointed by the Board of Higher Education.

The BoT undertakes a number of responsibilities, including the following:

- Drawing up the general policy of the university.
- Approving the strategic and annual plans of the university, based upon the recommendation of the University Council and follow-up of its implementation and evaluation.
- Evaluating the performance of the university from all aspects (academic, administrative, financial and infrastructure).
- Appointing the Vice-Presidents and Deans.
- Recommending to the Board of Higher Education the establishment of faculties, departments, institutes and centres, as well as academic programmes and specialisations.
- Determining the tuition and study fees and approving the annual budget and annual report, after recommendation from the University Council.
- The University Council is chaired by the President and comprises of representatives from the various categories of stakeholders, including representatives from the local communities. It is responsible for the quality of the services offered by the university (teaching, research, training and community service).
- The review of the annual plan for infrastructure and recommending it to the Board of Trustees, recommending tuition and fees, approval of the annual budget and performance and accomplishment reports before submission to the Board of Trustees.

It is to be noted that although the above-mentioned Councils & Boards include good representation from enterprises, faculty and department Councils have only limited numbers of representatives from enterprises.

State of the Art in Online/Distant (and International) Learning:

There are interesting developments in online/distance learning in Jordan, including international online collaborations. Many of Jordan's universities have begun adopting online portals providing a gateway to online learning. Moodle is widely used as a platform. The University of Jordan is prominent in this regard and has its own YouTube channel providing troubleshooting information for its portal. The University of Jordan also provides open e-learning courses that can be found without needing to log on to a Moodle e-learning platform. A MOOC platform was agreed for launch in November 2013 as part of Queen Rania Al Abdullah's initiatives under The Queen Rania Foundation.

1) Public Universities

الجامعة الاردنية The University of Jordan
الجامعة الالمانية الاردنية German Jordanian University
الجامعة الهاشمية The Hashemite University
جامعة آل البيت AL al-Bayt University
جامعة البلقاء التطبيقية AL-Balqa' Applied University
جامعة الحسين بن طلال AL-Hussein Bin Talal University
جامعة الطفيله التقنية Tafila Technical University
جامعة العلوم والتكنولوجيا الأردنية .Tech & Jordan Uni. of Science
جامعة اليرموك Yarmouk University
جامعة مؤتة Mu'tah University

2) Private universities

الأكاديمية الأردنية للموسيقى الخاصة Jordan Academy of Music
الجامعة الاميركية في مادبا The American University
جامعة اربد الاهلية الخاصة Irbid National University
جامعة الاسراء الخاصة University Al - Isra
جامعة الأميرة سمية للتكنولوجيا .Princess Sumaya Uni. for Tech
جامعة البترا الخاصة Petra Private University
جامعة الزرقاء الخاصة Zarqa University
جامعة الزيتونة الأردنية الخاصة Al-Zaytoonah Private Uni. of Jordan
جامعة الشرق الاوسط Middle East University
جامعة العلوم التطبيقية الخاصة Applied Science Uni (Private)
جامعة جدارا Jadara University

جامعة جرش الاهلية الخاصة Jerash University
جامعة عجلون الوطنية الخاصة Ajloun National University
جامعة عمان الأهلية الخاصة Al - Ahliyya Amman University
جامعة عمان العربية Amman Arab University
جامعة فيلادلفيا الخاصة Philadelphia Private University
كلية الاردن الجامعية Tourism & Jordan Applied University College Of Hospitality
كلية العلوم التربوية والاداب /الانروا Educational Sciences Faculty
Luminus Education
Crown Prince University

3) Regional Universities

الجامعة العربية المفتوحة Arab Open University
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3.1 Baseline Institutional Survey Findings

All the five Jordanian partners of the JOVITAL Consortium, were asked to complete a survey outlining the level of participation in virtual / online teaching and learning within their institution (see Appendix 2). The survey sought to capture current practice at the time of completion (early 2018) and also to identify the future goals of the participating institutions.

In particular the partners were asked to provide:

- An institutional overview
- What current policy / strategy is used for guiding online teaching and learning practices
- What the current portfolio of online teaching and learning is
- What the involvement in online delivery is with regards to staff, level and in what role/ capacity
- The infrastructure and resources available for online delivery
- How student feedback / student experience for online learning is captured and responded to
- What exists in terms of course / programme delivery in collaboration with international partners and projects including future plans

The following pages summarise the responses to the baseline survey, and are listed in alphabetical order, by institution.

3.2 Al-Hussein Bin Talal University

The content for the case study was supported by: Professor Husam Abuhajar

Institutional Overview

Al-Hussein Bin Talal University (AHU) was founded in 1999 and was the first higher educational institute established during the reign of H.M. King Abdullah II. At the beginning, the university was a branch for Mu'tah University occupying a temporary campus in the city of Ma'an and was relocated to a permanent campus in September 2004, 9 Km North West of the city of Ma'an. AHU is a public co-educational university located in the heart of the southern region, 210 Km from the Capital Amman. AHU has nine scientific centres that are heavily engaged in research and development projects and in line with its mission. The university is growing steadily to meet the surrounding environment and local community's needs and to be responsive to future developments and expansions. In 2008, the college of nursing was established thereby becoming the first college in Ma'an Governorate to meet the critical shortage and high demand for qualified female nurses. AHU is heavily involved in strategic planning to achieve its goals, vision, mission and to deliver programmes of study that meet national and international standards and accreditations measures. Indeed, in the international horizon, AHU is very active and has signed many Memoranda of Understanding and Agreements with world organizations, universities and agencies to exchange expertise, programmes, students and faculty members. In terms of institutional ranking, AHU is rated by Webometrics as 14 nationally and 4112 (World U.S. News).

Guiding policy / strategy for online teaching and learning

AHU has developed its 'Strategic Plan for Quality Assurance' for the years 2007-2011 and is preparing the second five-year strategic plan for the years 2012-2016. In June 2011, AHU was licensed to offer Master degree programmes in Education (Curriculum and Instruction Methodologies) to satisfy the needs of local public schools and relevant institutes.

The administration of AHU is deeply committed to exploring every possible opportunity to accentuate and reconsolidate AHU development and improvement to gain an outstanding reputation among Jordanian Universities. This includes availability of capacity building and professional development programs to empower the faculty members and staff to improve their performance and achievements. Additionally, AHU's focus has a vision and goals to fulfil H.M. King Abdullah's II vision about the role and responsibility of the public Jordanian Universities.

There is no current policy for online learning, as this is a provision the university are working towards. There is a university strategy on internationalisation which focuses on international accreditation, programmes, development and application of ICT in training and learning.

Faculties / Departments / Subject Areas

The university core curriculum emphasizes students' intellectual and ethical development through expanding the students' self-understanding and knowledge of the world. Through its eight colleges and centres, AHU expands its academic offerings to provide:

- Degree programs that integrate courses from more than one college.
- Instructional support for the students and faculty.
- Research programs and forums for specialized academic groups and local communities.
- Training and services in leadership, women empowerment, family health and planning, media for local organizations, industrial and business sectors.

- Developmental Community Radio Station to cover Ma'an area.

AHU is institutionally accredited; thirty programs were accredited and the remaining twelve programs are in progress for accreditation.

Online portfolio for teaching and learning

There is currently no online provision as all students are taught face to face on campus. However, there is clearly an appetite for online learning, particularly at Masters level. AHU Staff on the whole are keen to learn new approaches to online teaching and learning, with focus on for example, E-learning platforms, course design in terms of pedagogical approach, and ways to develop quality online contents.

Students

AHU have a student body of 5520, with 5216 studying at Bachelor level and 304 at Masters level. The student population is drawn predominantly from Jordan.

The average age of students is 21, with all students studying full time. The percentage female/male ratio is 56/44%.

Academic staff involvement

There are 343 full time academic staff, with 46 Full Professors, 111 Associate Professors, 97 Assistant Professors and 89 Teaching Assistants.

Infrastructure and resources for online delivery

AHU has a Computer and Information Technology Centre although has no activities to promote e-learning as such, and no designated staff promoting Online Education - although technical support is offered. AHU has a number of computers, but most of them are outdated. It has no laptops and no iPad, although is served well by Wi-Fi.

Moodle is the main Learning Management Systems used

<http://elearning.ahu.edu.jo/login/index.php>

Student feedback / student experience for online learning

Student feedback is not currently accessed.

International partners, projects and future plans

The university are very open to collaborate with international partners for online learning design and delivery. AHU need strategies and plans in place to support

their e-learning not least in addressing certain employee resistance to e-learning; the need for employees and students' skills and capacity building to teach and learn in e-learning environments; and opportunities to develop expertise in the field of online and virtual learning.

3.3 German-Jordanian University

The content for the case study was supported by: Associate Professor Mohammed al Doud

Institutional Overview

The German-Jordanian University (GJU) is a rural, public university located in Mushaqar, Amman. It was founded in 2005 by a Royal Decree in accordance with a memorandum of understanding reached between the Ministry of HE and Scientific Research of the Hashemite Kingdom of Jordan and the Federal Ministry of Education and Research of the Federal Republic of Germany.

The University is ranked as a first-class university in Jordan based on the Jordanian Universities Ranking that was issued by the Higher Education Accreditation Commission (HEAC). The university is modelled on the German applied-sciences model, characterised by a focus on putting knowledge into practice and on promoting knowledge transfer. The University aims to play a significant role in promoting links between Jordan and Europe, particularly Germany. The institutional focus is on providing undergraduate and graduate programmes of the highest quality.

Guiding policy / strategy for online teaching and learning

The Higher Education Accreditation Commission (HEAC) is the national overarching professional standards framework GJU are working to for Higher Education

<http://www.heac.org.jo/>

Faculties / Departments / Subject Areas

GJU has 9 Faculties / Schools

Courses are offer in the subject areas of Applied Humanities and Languages, Applied Medical Sciences, Applied Technical Sciences, Architecture and Built Environment, Basic Sciences and Humanities, Electrical Engineering and Information Technology, Management and Logistic Sciences, Natural Resources Engineering and Management, and Business Administration

Online Teaching and Learning

As mentioned, GJU is modelled on the German applied-sciences model, characterized by their focus on putting knowledge into practice and on promoting knowledge transfer. By taking advantage of the best educational practices in both Jordan and Germany, the University has positioned itself as a leader in its field. GJU is intended to serve as a unique university of applied training, experiential learning, and professional excellence, oriented towards market and industry needs.

Currently, no courses are offered by GJU which are online-only. As such, blended learning is mostly prevalent. The first online component of a course was delivered in 2016.

Students

GJU have a student body of around 4,000, (approx. 3400 study at Bachelor level and approx. 400 at Masters level) drawn predominantly from Jordan, but also including international students. Between 30 and 40 students come from Germany as exchange students.

The average age of students is between 20 and 21, with the majority studying full time. The percentages of female male students at GJU are 40% and 60%, respectively.

Academic staff involvement

The number of academic teaching staff at GJU is around 300. Most are Assistant Professors. The majority of the teaching staff are employed full time; however, a limited number of instructors are hired part time to teach for a specific term.

Whilst there are no current incentives for academic staff to provide online / distance education, and there are no online education champions as such, it is clear there is an appetite for this, and academic staff are motivated to learn new approaches to teaching and learning using ICT, and in particular, online tools and resources to support and strengthen their educational process.

Infrastructure and resources for online delivery

GJU have limited support for developing online courses. However, the University has a Memorandum of Understanding (MoU) with EDRAAK⁸ that encourages the development of online courses. The support provided by the university is mainly focused on providing the Moodle Learning Platform, the main Learning Management System (LMS) used by GJU for all courses offered by the university. E-learning materials are supported and shared via this learning environment. The e-learning resources provided via the university's LMS are widely used by teaching staff. These resources are supported through GJU's Computer Centre, which is a non-teaching unit.

GJU has an institutional repository (IR), though it is not open access, and is not available to those outside the university. The IR is used by teaching staff to deliver educational materials to students, such as presentations, assignments, and to provide student announcements.

Most of the students have personal laptops that they use in their learning and there is free internet access to students. GJU also offers its students various software programmes with free student licenses. GJU is working towards providing the release of content under open licenses.

Student feedback / student experience for online learning

Student feedback is accessed.

Most academic staff do not have access to the formal statistics. Although there is a sense that student's satisfaction is usually above 70%.

International partners, projects and future plans

A number of staff within GJU intend to incorporate innovative and open technologies within their teaching. GJU is currently involved with an EU Tempus funded project on Open Source Software Curricula Enhancement in Universities.

Within the context of the OpenMed project, German-Jordanian University has also been aiming to expand the online learning resources in order to support the traditional educational programmes and are in the process of establishing an Open Education Centre at the university.

The university are also very open to collaborate with international partners for online learning design and delivery and have an extended network of partner German universities that can help GJU with the design of the study plans and educational courses.

⁸ <https://www.edraak.org/en/> See also appendix 3.

3.4 Jordan University of Science and Technology (JUST)

The content for the case study was supported by: Associate Professor Mostafa Z. Ali

Institutional Overview

Jordan University of Science and Technology (JUST) is a state-supported university located on the outskirts of Irbid, at Ar Ramtha in northern Jordan. Founded in 1986, the university aims to serve local and regional educational needs and strives to be a leading academic institution and one of the top-ranked higher education institutions regionally and internationally. At the forefront of higher learning in the Arab World, JUST maintain a high reputation among the Middle Eastern universities and is considered today as one of the region's leading universities in teaching and research. Indeed, in 2016, JUST campus was ranked first in the Arab world and 66th at the global level in terms of sustainability according to the Green Metric Ranking.

JUST has undergone an impressive and unequalled record of accomplishment in education, scientific research, innovation and entrepreneurship, as well as community service and leadership, preparing highly qualified graduates who gain national and international reputation to lead development in Jordan and in neighboring countries. One of the university's main strategic targets is to foster leadership skills, innovation and entrepreneurship among its students, as well as to build their capacity so that they are equipped with the knowledge, skills and tools to proceed with their careers and professions, transforming their mindset and personalities from job seekers to job and opportunity creators. Most recently, JUST has embarked on a transformation programme with a strong belief in the power of change. This programme is of highest priority with a timescale of 2020 to achieve its targeted visionary change. The programme is focused on four main strategic pillars (called JUST 4 I's) related to innovation, industry linkage, interdisciplinary programs and internationalization.

Guiding policy / strategy for online teaching and learning

The university has strategies for Teaching and Learning; Assessment, analysis and quality improvement; and Scientific Research, which can be located on the link below:

<http://www.just.edu.jo/centers/justlearn/Pages/default.aspx>

Faculties / Departments / Subject Areas

JUST provides a wide range of advanced degree programmes at both undergraduate and graduate levels, many of which are not offered by any other Jordanian university.

JUST comprises 12 Faculties (Medicine, Engineering, Science & Arts, Pharmacy, Dentistry, Agriculture, Veterinary Medicine, Architecture, Information Technology Applied Sciences, Nursing and Graduate Studies) in addition to the newly established Nanotechnology Institute. In total there are; 45 undergraduate programmes and 89 postgraduate programmes

The university offers unique programmes at the national and regional level such as Nuclear engineering, Aeronautical engineering, Veterinary Medicine, and Paramedics.

Online portfolio for teaching and learning

Please access the full portfolio from the link below:

<http://www.just.edu.jo/centers/justlearn/Pages/About-us.aspx>

Online study options started on first semester of the academic year (2017-2018), where the university launched 13 courses in eight colleges. The number of these courses offered at the

second semester of the same academic year was 18 courses across a number of colleges, detailed as follows:

Semester	No. of courses	No. of colleges
First (2017-2018)	13	8
Second (2017-2018)	18	9

Students

The number of students has increased significantly since the university's establishment. Today JUST has 23,000 undergraduate and 1800 graduate students, in contrast to 2,300 students in the academic year 1986/1987.

There are 20,834 students studying at Bachelor level, 1811 at Masters level, with 14 PhD/Doctoral students.

Around twenty percent of students are non-Jordanians, which is a key marker in terms of the international index, representing 48 countries and comprising the largest diverse student body in Jordan.

All students study full time. The average age of students is 20. The gender mix of students is shown as:

Bachelor		Masters	
Male	Female	Male	Female
9401	11433	604	1207

Academic staff involvement

The number of academic teaching staff at JUST is more than 1000 full-time faculty members with around :

- Full professors 249
- Assistant Professors 283
- Associate Professors 286
- Teaching Assistants 28

The majority of the teaching staff are employed full time; however, a limited number of instructors are hired part time to teach for a specific term.

Whilst there are no current incentives for academic staff to provide online / distance education, and there are no online education champions as such, it is clear there is an appetite for this, and academic staff at all levels are motivated to learn new approaches to teaching and learning, and in particular, online tools and resources to support and strengthen their educational delivery.

Infrastructure and resources for online delivery

The university has an E-Learning Centre to support teaching staff in the design and delivery of online learning, in particular in areas such as: Interactive animated contents, course management, and technical support and backup.

The main Learning Management System (LMS) at JUST is Moodle version 3.3+ on Windows 2012, Virtual Machine and MySQL Database.

As yet, JUST does not have an institutional repository.

Student feedback / student experience for online learning

The E-Learning Centre uses the Quality Matters Evaluation Rubric, and the Centre are working on releasing a new way to obtain student feedback and ways to manage it all.

International partners, projects and future plans

The university are very open to collaborate with international partners for online learning design and delivery and have an extended network of partner collaborations already in situ including

- ‘Edraak’: a massive open online course (MOOC) platform, that is an initiative of the Queen Rania Foundation (QRF) (see Appendix 5). QRF is determined to ensure that the Arab world is at the forefront of educational innovation. As such, QRF has capitalized on regional Arab talent to leverage technology developed by the Harvard-MIT consortium, edX, to create the first non-profit Arabic MOOC platform.
- ‘Quality Matters’: for assessment of online courses and enhance their quality
- ‘The Institute for the Study of Knowledge Management in Education’: whose aim is to increase awareness on utilizing and adopting more open online learning resources and mechanisms for applying them suitably.

3.5 Tafila Technical University

The content for the case study was supported by: Professor Saleh A. Al-Jufout

Institutional overview

Tafila Technical University (TTU) is located on a high mountain overlooking Tafila city where about 96 thousand people live in quietness and peace faraway from pollution and noise. The height of mountains in Tafila is in the range of 1200-1600 meters. TTU was established in 2005, and it was the first scientific institution in the region, attracting its people as learners to the so-called "reverse migration".

In terms of institutional ranking, TTU is rated by Webometrics as 17 nationally, 4963 by the World rank and 117 in the Arab World. TTU was the first technical university in Jordan and is eager to implement the latest technology in teaching, training and learning, and looks forward to gaining support to develop its expertise in the field of online and virtual learning.

Another merit of TTU is the small number of its enrolled students. This makes it feasible to communicate with students, provide them with educational and recreational activities, supervise their extracurricular activities, train them in the fields of their specializations, and enhance communication between students and their professors.

Guiding policy / strategy for online teaching and learning

The Higher Education Accreditation Commission (HEAC) is the national overarching professional standards framework <http://www.heac.org.jo/>.

There is no current policy for online learning, as this is a provision the university is working towards. University strategy on internationalisation is stated as a strategic goal for 2018-2022. A local institutional education strategy is available, which focuses on international accreditation, programmes, development and application of ICT in training and learning.

Faculties / Departments / Subject Areas

TTU has six colleges:

1. College of Engineering
2. College of Sciences
3. College of Business
4. College of Arts
5. College of Educational Sciences
6. Technical Community College

With 29 programmes offered at undergraduate and postgraduate level study

Online portfolio for teaching and learning

There is currently no online provision as all students are taught face-to-face on campus. However, there is clearly an appetite for online learning. TTU staff members also are very keen to learn new approaches to online teaching and learning, with focus on, for example, e-learning platforms, course design in terms of pedagogical approach, and ways to develop quality online contents.

Students

TTU has a student body of 4528, with 3905 studying at Bachelor level and 118 at Masters level. A further 475 study for an Intermediate Diploma, and 30 for a Higher Diploma. The student population is drawn predominantly from Jordan.

The average age of students is 21 years, with all students studying full time. The percentage female/male ratio is 34/66%.

Academic staff involvement

TTU is characterized by the presence of a large number of PhD and MA/MBA/MSc holders within its academic staff group, in addition to embracing many highly creative people and authors. There are 250 full time academic staff members, with 30 Full Professors, 73 Associate Professors, 98 Assistant Professors and 49 Teaching Assistants.

Infrastructure and resources for online delivery

TTU has centres which focus on Computer and Information Technology and Academic Development. The University currently has no activities to promote e-learning and no designated staff promoting Online Education although technical support is offered.

The main Learning Management System (LMS) used by TTU is Moodle <http://el.ttu.edu.jo/moodle2/>. Whilst, TTU has a limited number of computers, with few laptops and no iPads, the campus is well served / covered by Wi-Fi.

Student feedback / student experience for online learning

Student feedback is not currently accessed.

International partners, projects and future plans

The university is very open to collaborate with international partners for online learning design and delivery. It is currently a partner in e-LIVES “e-Learning innovative engineering solutions” Erasmus+ project <https://e-lives.eu/>.

TTU is looking forward to establishing a network for collaboration with international partners involved in e-LIVES and JOVITAL “Jordan opportunity for virtual innovative teaching and learning” Erasmus+ CBHE projects.

3.6 Princess Sumaya University for Technology

The content for the case study was supported by: Associate Professor Edward Jaser

Institutional Overview

Princess Sumaya University for Technology (PSUT) based in Amman, is an urban, specialized, non-governmental, non-profit, Jordanian university, owned by the leading applied research centre in Jordan, the Royal Scientific Society. Established in 1991, the university has emerged as a centre of excellence in ICT education, research and innovation and a model of the future university in Jordan. PSUT strives to become a nucleus for a modern Jordanian knowledge industry, which actively animates the process of socio-economic and cultural development locally, regionally and globally. PSUT aims at supplying Jordanian, regional and global societies with technically and scientifically qualified ICT graduates and with solid applied research work. PSUT has been actively involved in the renewable energy and resource efficiency domain. The university is ranked 2nd in Jordan by the Accreditation and Quality Assurance Commission for Higher Education Institutes, and 46th in Arab World (QS Ranking)

Guiding policy / strategy for online teaching and learning

The university is currently developing policy on online / distance learning: <http://psut.edu.jo/content/e-learning-center>.

And also has a strategy for Internationalisation:

<http://www.psut.edu.jo/content/international-relations-office>

Whilst PSUT does not currently have a definition of open education, it is part of the eQTel Tempus project ⁹ ('Enhancing Quality of Technology-Enhanced Learning at Jordanian Universities') which may lead to the creation of such policies in the near future. The university is working to the Higher Education Accreditation Commission (HEAC) as the national overarching professional standards framework for Higher Education

<http://www.heac.org.jo/>

Faculties / Departments / Subject Areas

PSUT has three Faculties.

The university runs 13 undergraduate programs and eight graduate programmes in Computing Sciences, Engineering and Business Technology.

Online portfolio for teaching and learning

Classes tend to be delivered on campus, face to face, however an increasing number of post graduate study options are now offered as blended learning (since 2016) with a mix of face to face with online delivery, at Masters and PhD / Doctoral level study.

Furthermore, PSUT run several online-only degree courses:

- Course number 31121 Coordination Unit for Service Courses ONLINE English Language
- And are in collaboration with EDRAAK to run EDRAAK- PSUT online courses:

<https://www.edraak.org/partner/PSUT/>

Additionally, some lectures are posted online to YouTube¹⁰. There is also an ongoing project which is experimenting with using remote labs for engineering subjects, and ambition and appetite to offer more courses at Masters level online.

⁹ <http://eqtel.psut.edu.jo/Home.aspx>

¹⁰ <https://www.youtube.com/user/PSUTUniversityoffici>

PSUT uses the Moodle LMS. All course materials are expected to be posted online, as well as homework submissions, projects, and student communication. Moodle class management is supported by IT staff on a semester basis.

Students

As per academic year 2018, PSUT has a student body of 3,310 with 2890 studying at Bachelor level, 275 at Masters level, 15 PhD/Doctoral students and 130 students on exchange programmes with universities overseas. The average age of students is 21, all of whom study full time, with a percentage mix average of Female: 46% / Male: 54%

Academic staff involvement

The university has a total number of 160 academic staff (is this correct) of which 23 work part time.

This includes, 24 Full Professors, 35 Associate Professors, and 50 Assistant Professors. The university also employs 22 Teacher Assistants (teachers without a PhD) and also has support from 10 PhD students, 10 Masters students, with nine Teacher Instructors whose role is to support the academic staff.

Whilst there are no staff incentives currently for providing online / distance education, a policy is being developed, which we will be added into the action plan for 2019. This policy will formally state and explain the 'incentives programme' that allows faculty members to be eligible for extra compensation in exchange for delivery of online teaching.

It is important to add that the number of instructors who are interested in learning new approaches to online teaching and learning is raising. The E-Learning Centre has been working hard to encourage academics promoting the importance of ICT implementation in teaching methods, and is delivering training sessions (four to date) about the following topics:

- Introduction to online teaching techniques and quality assessment.
- Fundamentals of video production for educational purposes.
- Academic e-Persona and networking.
- Virtual classroom management.

Each of these training sessions lasts for 2 hours. The Centre will focus on providing a systematic way of delivering further training. In addition, the Centre will expand the schedule of training, increase the number of sessions, and target more Faculty members who are interested in this field.

Infrastructure and resources for online delivery

As mentioned PSUT has an E-Learning Centre (ELC) with Technical Support Staff focused on capacity building. The University continues to install and operate the latest trends and technologies of e-Learning. In addition, PSUT will be offering e-learning solutions such as: Augmented Reality applications, Virtual Reality station for game-based learning, workstations to take online courses designed by PSUT departments, and access for open resources. The ELC is playing a key role in this and will continue to provide training sessions on how to use eLearning for maximum learning benefits and outcomes.

PSUT have also developed an institutional repository via their learning management system (LMS) provided by Moodle Elearning.psut.edu.jo

Other online learning resources include:

- Compatibility with variety of websites
- Cloud computing
- Plug-ins
- Video embedding
- McGraw- Hill connect
- Virtual Classrooms
- Adobe connect

In addition, some teaching materials are published at a faculty level using CC Licenses, for example 'Hacking Techniques and Intrusion Detection' (2013)¹¹.

The campus is fully-covered by internet access and has 10 open computers labs. In addition, the university has established a recording studio for virtual classrooms and online topics provided by the ELC. The main challenges revolve around some drawbacks in the internet throughput and infrastructure. ICT support is mainly provided by Royal Scientific Society (RSS) through their Computer Services Centre.

Student feedback / student experience for online learning

Although there is no current collection/ capture of student satisfaction scores a survey is currently being developed and is awaiting administrative approval. Once approved, it will be distributed in two versions: one for student satisfaction, and another one for instructor feedback. PSUT distributed a Student/instructor feedback survey (a beta version) last semester (second semester, year 2018) <https://goo.gl/forms/q7cmsOkWeB5ZW7eI2>

International partners, projects and future plans

Internationally, PSUT has participated in a Tempus project which included sharing the curriculum and learning materials for one master's program across ten Universities (MSC-ESE)¹², and is currently participating in the eQTel project mentioned above. The university is currently a partner OpenMed OpenMedproject.eu. At a national level the university is in partnership with Edraak (See appendix 5)

In terms of ambition, PSUT is currently striving to enhance its current strategic relations, and is concluding cooperation agreements with a number of Centres and Universities, nationally and internationally, to develop e-learning tools.

It is also worth noting that PSUT, are working closely with students and students' research skills, to dig deeper into analytics of online course usage in PSUT. Further research work will be done by software engineering students during the second semester 2017-2018.

¹¹ <http://opensecuritytraining.info/HTID.html>

¹² <http://www.tempus-msc-ese.eu/about-msc-ese>

4. Academic Survey

DIGCOMP Tool (JISC)¹³

Introduction

In order to gather baseline data to gauge digital competence within the Jordanian Higher Education Institutions within the scope of JOVITAL, a survey was adopted to allow professional and academic staff to provide feedback. Rather than create a new tool from the ground up, it was decided that an existing and pre-tested tool be utilized. The DIGCOMP tool was adopted due to its focus on digital competencies within Higher Education in the context of growing use of online learning. Permission to use the tool was granted from JISC researchers, Heather Beetham and Tabatha Newman.

Overview of the DIGCOMP Tool (JISC)

DIGCOMP (V2.1)¹⁴ is a Digital Competence framework, developed by the European Commission EU Science Hub. It is a framework and toolkit to improve digital competence in five key areas:

1. Information and data literacy
2. Communication and collaboration
3. Digital; content creation
4. Privacy and safety
5. Problem solving

(Cattero, Vuorikari & Punie, 2017)

¹³ <https://www.jisc.ac.uk/full-guide/developing-organisational-approaches-to-digital-capability>

¹⁴ <https://digitalcapability.jiscinvolve.org/wp/digital-capability-discovery-tool/>

The Digital Competence Discovery Tool specifically targets Academics'

- Confidence questions
- Depth (approach to a digital task)
- Breadth The digital activities you do)

Further, DIGCOMP provides an opportunity to access staff competencies with respect to using technologies and supporting students' access material. The tool targets individuals and allows for staff to honestly and confidentially reflect on their own digital competences.

Although the tool is a good fit for JOVITAL, it is important to note that there are a small number of disadvantages to using DIGCOMP. Firstly, the results are individualistic and may not be fully representative of institutional norms. This means that a poor response rate might impact the quality of the data, with a larger response rate being desirable. Linked to this, the individualistic nature of the survey does not consider strategic, management and general oversight of e-learning delivery, for example working with others to develop content.

Finally, the survey does not drill down into the *why* behind some of the responses - most questions are Likert scale or multiple choice, with limited options for free text answers. Some responses therefore need further cross referencing to try and identify more detail, particularly around policy and strategic initiatives or gaps. Although this is not a prohibitive factor for background data gathering, it does mean that ideally interviews could be advisable, and may be necessary to drill down into the data, as a follow up.

Process used for administration of survey

The research team at Coventry added in a number of demographic questions at the start of the DIGCOMP tool, as part of the online survey (See Appendix 3). The survey was converted and hosted on the 'Online Surveys platform' (formerly known as Bristol Online Survey {BOS}). No amendments or additions were made to the DIGCOMP tool during this process, although Jordanian-Specific questions were inserted at the start of the survey in order to align the tool to JOVITAL (Refer to Appendix 3, questions 6 and 6a). Online Surveys is fully compliant with UK Data Protection and GDPR laws.

The survey was open between May 1st 2018 and closed on June 13th 2018. The link to the survey was emailed to the main contact of each of the Jordanian partners, with a request that the survey was circulated to as many academic staff from across a broad range of teaching roles and subject areas as possible. The aim was to capture the responses from at least 15% of the academic staff group at each university.

A total of 105 responses were received across all JOVITAL target institutions.

Data analysis approach

Raw data was provided by the Online Surveys platform and were examined using Microsoft Excel. Although Online Surveys is able to provide visual representations of the data, these are not easily convertible for use in a report format. All charts and other visual data were therefore created using Microsoft Excel, based upon the raw data as exported from Online Surveys. The use of SPSS was explored for this dataset but, due to the relatively small size of the dataset, Microsoft Excel was suitable. The data were examined via thematic analysis and the findings are presented in the following sections. The data from all respondents across all of the sampled

Jordanian Universities were initially analysed as a whole; this was done to generate data from the entire sample across Jordanian institutions. The second round focused upon individual institutions to see if any specific issues arose in particular universities. Although the data were ultimately more or less consistent across institutions, minor variations are highlighted.

The quality assurance mechanism

The data were gathered through a closed survey, with links sent only to staff within the JOVITAL sample group. Respondents, whilst anonymous, were required to state which institution they were from, and what subject area they were affiliated with.

The analysis was conducted by two Research Associates at Coventry, who looked at the data in order to ensure consistency and quality of the analysis. The interpretation of the findings was then discussed with the wider team, including the development of the study recommendations.

4.1 Key Findings from the DIGCOMP Academic Survey

This section covers the key findings for the DIGCOMP survey. These findings will cover the data set as a whole, with major institutional variances covered at the end.

- Demographics

A total of 105 responses were received, eight from German Jordanian University (GJU), 24 from Princess Sumaya University for Technology (PSUT), 34 from Tafila Technical University (TTU), 10 from Jordanian University of Science and Technology (JUST) and 25 from Al-Hussein Bin Talal University (AHU).

Most of the respondents were male (91%) and from a STEM background (86.1%). The remaining respondents were from Humanities, Education Studies, or did not respond.

In terms of teaching experience, the average response was from staff who had six-10 years' experience. The majority of the respondents were from experienced teaching staff, Assistant Professors, followed by Full Professors. Very few of the respondents had been teaching for less than a year. The majority of respondents were from academic backgrounds, with technical and administrative staff being the least represented. The following charts show the demographic breakdown of the data:

Perhaps unsurprisingly, the data also shows that those with more senior titles (such as Professor) were more likely to have been teaching for more than six years and those with more junior titles (Teaching Assistant) were more likely to have taught for five years or less.

A majority (67.4%) of the respondents felt that more online learning should be allowed within Higher Education courses, with only 7.4% wishing to see less online learning:

- Confidence in using general online digital tools in teaching

A high percentage of respondents already feel confident in using online learning, with 85.1% feeling either highly confident or moderately confident in using online resources in general. Beyond this, 83.1% responded that they already incorporate online resources into teaching and learning.

From the qualitative measure, most respondents use e-learning regularly and broadly and are relatively quite confident, with e-learning described as:

“Handy and much easier for sharing knowledge”

“It makes teaching more simple.”

“Moodle system for file sharing and assignment submission and Facebook groups for discussion and announcements.”

However, there were some challenges to this:

“There is not enough equipment and software to support this process”

“The students are more interactive by face to face teaching”

There was some correlation between the seniority of the staff and their confidence. Whilst a third of professors did not use online resources in their teaching and learning practice, only 84% of Associate Professors and 75% of Teaching Assistants responded that they were using online resources. This also can be seen in the confidence responses, with Associate Professors far more likely to say they were highly confident than Professors, who generally opted for ‘moderately confident’ in their responses.

The correlation between age and resistance to e-learning is particularly interesting because respondents who overwhelmingly engage with e-learning tools point out that e-learning makes their teaching and learning activities “easy”. On the other hand, lecturers who are hesitant to use e-learning emphasise that it is inefficient, particularly with respect to practical skills.

- Confidence in using online digital tools to support learning outcomes.

73.3% of all respondents stated that they were either highly confident or moderately confident in designing digital activities to support different learning outcomes. The majority of the responses fell in to ‘moderately confident’ and there were no patterns in terms of seniority and length of service with regards to these answers.

With regards to the planning of sessions which incorporate the use of digital technologies, staff were most likely to use the available resources and plan around the familiar. Only 15.3% of the respondents specifically design digital activities to support learning outcomes:

We can also see that most respondents would look for materials online to use in the classroom, but a low number responded to say that they would try new technologies or would share ideas with colleagues:

With regards to copyright and online resources, 76% of the respondents felt highly confident or moderately confident in using online digital resources within the rules of copyright.

When asked about the approach to selecting and using digital resources for learning, the overall response rate was rather low, with the highest response being 28.6% in relation to 'I find quality learning resources to suit the topic I am teaching':

- Interaction with students

The respondents showed a breadth of experiences of producing resources for learners. In addition to the standard responses in the table below, respondents also noted that they had produced interactive presentations, digital programming libraries, research papers and interactive oral quizzes for students to use.

When asked about confidence in using presentation technologies, 86.7% of teachers felt either moderately confident or highly confident. With a 4% non-response rate to this question, only 9.3% of the sample stated that they did not feel confident in this area.

The most popular format of presentation was to cover the content of the session on the slides, with the least popular being to use education design principles:

A wide range of familiarity with digital interactions was also reported:

- Student access to digital learning technologies

The data shows that the teaching staff generally assume that students have access to technology and low levels of checking of access to technology and digital competences were reported:

The data shows that teaching staff were more likely to help learners who need assistive tools for learning, but again, low signposting for digital support was reported:

- Online Teaching

Staff felt less confident about teaching in a live online environment, with 66.2% of respondents feeling moderately confident or highly confident in this area. Almost a quarter of the respondents felt that they were less confident. That being said, a variety of online activities are used with students:

Interestingly, despite being less confident in teaching in an online environment, 71.6% felt either 'moderately confident' or 'highly confident' that the staff felt confident to support students to become confident digital learners. Over 40% of the respondents stated that they made sure that their students practice basic digital skills:

The staff who responded also felt that they had assisted their learners in a variety of ways:

- Online Testing

A total of 77% of the respondents felt 'moderately' or 'highly confident' in marking online assessments and recording student grades. Although relatively few designed different learning media in their tests, over 40% of the respondents felt that they are able to construct tests in the form of multiple choice questions and quizzes:

Just under a third of the respondents felt that they were capable of using data to monitor learner progress, but response rates were low for other competences, such as utilizing simulations and creating e-portfolios:

- Approaches to e-learning

72.5% of respondents felt highly or moderately confident in keeping up to date with current trends in digital learning, including e-learning and digital education. Over 42% of the respondents stated that they look for opportunities to develop in this area:

Very few Staff expressed apprehension or difficulty using e-learning tools. Indeed, a majority of staff showcased the wide range of tools used in HE classrooms across Jordan. Notably, some lecturers complained of a lack of institutional support and in-adequate access to devices/resources. This is indicative perhaps of wide regionally variability which needs to be addressed, albeit systematically and strategically.

What was evident was the remarkably positive attitude and openness expressed to the use of e-learning/online. There was also a willingness to be creative and resourceful. Although the University systems do not appear to be sufficiently providing some staff with the time, tools and training to develop e-learning or planning and supporting staff to deliver e-learning efficiently.

Respondents also reported a range of activities over the last year:

Although the sample was generally positive about the use of digital/online/e-learning, there are a few respondents who are sceptical about e-learning with comments such as “The students are more interactive by face to face teaching”, “No facilities are available”. Others reported that technology was a limitation and one Professor reported that they did not ‘believe in the pedagogy behind digital learning’.

- Training needs

Lecturers use online resources readily but there seems to be difficulty assessing how efficient or effective these interactions are. It is also important to assess the quality of e-learning and online learning with particular reference to underlying pedagogy, student-centred learning environments and reliable use of assessments.

Staff reported to be in receipt of relatively good training, there were references to OpenMed resources¹⁵ and Instructional Design Training (which is incorporated into teacher training). The sample also included one Learning Technologist. A number of respondents shared their training needs with regards to digital competences. The most important and recurring needs related to strategic and technical training, particularly at an institutional level:

“I think the institute lacks support to digital learning. University regulations might stand against employing real eLearning activities”

Beyond this, a number of more specific training needs arose, mostly surrounding the design of learning tools:

“I need training in strategies of eCourses, for best interaction with students and colleagues.”

“Course content design”

“Design online tests.”

“Blended Learning”

¹⁵ <https://openmedproject.eu/course/>

- Institutional variance

Responses from AHU generally mirrored the sample, but the qualitative data showed a greater number of requests for technical training. Staff at AHU also evidenced a higher number of comments relating to a lack of equipment at the institution.

GJU had the smallest number of responses, with eight members of staff replying. Although the sample size may have skewed the data, staff at this institution generally had a much higher rate of confidence in using online tools than the sample as a whole, with 100% stating that they were 'moderately' or 'highly confident' in using and applying digital and online content. One of the respondents stated that they had been involved in OpenMed training courses, which have provided to be supportive.

JUST had 10 respondents, and had a slightly different demographic, with 50% of the demographics coming from medical disciplines. 80% of JUST respondents wished to see more online learning in their courses and confidences generally aligned with the sample as a whole. Respondents were generally quite favourable about digital learning, noting that it was easy to use and offered easier reach to students as well as communication means.

The sample from PSUT was almost exclusively from STEM and related subjects. Respondents were quite favourable to digital learning, with comments noting that online learning helps students to learn outside of the classroom and there was recognition that adopting online elements can help to improve institutional reputation. Confidence rates were mostly in line with the whole sample, but were consistently slightly higher, with more staff reporting that they were 'highly confident' with regards to digital competences. Most respondents from PSUT did not wish for extra training, with one stating that they were not overly enthusiastic to be trained.

TTU had the largest number of respondents, and had the most diverse range of teaching staff responding. There were a high number of comments relating to a lack of technology facilities at TTU to support digital and online learning. TTU staff were more likely to respond as 'moderately confident' against competences compared to the whole sample. Staff at TTU were also least likely to share ideas with colleagues and others online. Many staff suggested that they would like technical training to support them.

5. Interpretation of Findings

The findings from the DIGCOMP tool reflect a largely positive response rate, with levels of digital literacy analysed as generally high, with staff being mostly receptive to the concept of online digital learning as part of normal study.

A starting caveat, however, is that the sample is skewed; predominantly to males in STEM subjects, and particularly computing and engineering. As such, many of these staff would be expected to be more familiar and comfortable with the use of digital tools. As the respondents are also mainly from male teaching staff, further investigation would be required to accurately gauge the competences of female staff and also non-academic staff, including staff from subjects such as the humanities and health disciplines.

In addition, the DIGCOMP tool did not permit sufficient analysis of some themes. For example, some lecturers stated that e-learning cannot be used to teach practical skills. It is possible to understand how difficult it could be to design or use e-resources that support learning of precise practical skills like coding or lab work, or medical competences. Further research is therefore needed to understand why some lecturers do not have complications using e-learning tools and the reason why some believe traditional methods and pedagogies are more suitable for learning in HE today. It may be because the more senior lecturers are used to, and as a consequence, more confident when delivering curriculum using traditional methods. They may also not be exposed to the innovative software, devices or pedagogy that enables e-learning to be used in many practical disciplines. This is particularly pertinent with respect to the innovative use of software to develop virtual learning, augmented reality, serious games and other bespoke e-learning based models, which can make learning more engaging as well as autonomous.

It is clear that online learning is welcomed by the majority of teaching staff, with 67.4% wishing to see activities going beyond the current 25% cap that has been put in place by the Jordanian government. That said, the data suggests that the more junior teaching staff, who have been teaching for five years or less, are generally more open to innovative practices in virtual delivery compared to the more senior staff, who have over six years of teaching experience.

The data also reveals that Jordanian teaching staff plan around the available technology. As some respondents noted, access to technology appears to be limited in certain institutions, and there is also evidence of unequal provision around the country. This could therefore justifiably explain why relatively few respondents (10.8%) feel that they can draw from a range of activities to meet their learner needs.

Currently, 17.9% of respondents create their own learning resources, drawing on the best examples, with 30.1% looking for relevant examples of materials online. Although further information is needed to interrogate this, what appears to be indicated is training to assist and empower teaching staff to not only develop their own licensed Arabic content, and to share these education resources with others internationally, but also to feel more proficient in using already existing open education resources and open education practices.

In terms of teaching activities, respondents showed a wide variety of teaching and learning tools, beyond that of PowerPoint presentations. Online Quizzes, videos, voice overs, images and animation, multimedia objects and simulations/apps/games were all reported to be in use by up to 20% of the respondents. That said, no single activity was reported to be in use by over 20% of the sample, which again may indicate that further training is necessary to empower tutors to further implement these activities.

In terms of student engagement, it appears to be assumed that students have the devices and digital fluency skills that are required to enable them to effectively engage in e-learning, with tutors generally not signposting students or checking for capability and competency. Indeed, only 8.6% of the respondents' signpost students to support relating to technology needed for digital online learning, with 13.8% checking to see if students have sufficient devices and 16.4% checking for skills. This may highlight training needs for staff as technology-driven learning requires skills and competences to access and use the technology.

Sharing of experiences and ideas is another area for further attention. Just 7.7% of respondents stated that they share ideas online and 19.3% share teaching materials with others. Without a community of practice to draw from and share best practice with, the adoption of online digital learning might not be as strong and well developed as it otherwise might be.

Linked to above, there is a relatively small amount of self-improvement activities reported within the sample. 21.6% had attended an online workshop, with 15.6% contributing to an online discussion. Only 13.8% of respondents had discussed digital skills with a mentor or head of department and 18.3% had read an article about e-learning over the last year. This would suggest that, whilst tutors are open to using online digital tools within teaching and learning, there are currently low levels of CPD and self-improvement. This is perhaps unsurprising given that online content is currently capped at 25% within degrees, but attention may need to be paid to this as a training need should the current cap be reviewed and amended.

Overall, the data shows a positive trend in competency and acceptance of digital tools. Several issues however, are evident from the data. Firstly, access to technology is not consistent across the institutions; nor is the perceived requirement for training and development, as some tutors believe they already have the necessary competencies required for effective virtual teaching and learning, whilst others do not. What is clear is that the sharing of best practice would be beneficial, including development of ongoing supportive mechanisms through communities of practice frameworks. In terms of considering the needs of students, it was obvious that staff seldom check to ensure that students have access to the right technology for digital online learning, and have the necessary digital fluency skills to experience success in online learning; as a consequence, training is likely to be required for staff to be more aware of ways to better signpost students to means of support. In addition, more needs to be understood about disciplines outside of the STEM subjects in terms of academic development needs, including the views of females, non-academic staff and professional services staff. These findings are further developed in the following key recommendations for the next phases of JOVITAL, along with the key observations from the baseline institutional survey data.

5.1 Recommendations for the Next Phases of JOVITAL

- **Top-Down and Bottom-Up Implementation**
- **Collaborative Creation in Communities of Practice**
- **Supporting Staff in the Design and Delivery of Virtual Teaching and Learning Practices, including use of Open Educational Resources**
- **Enhancing the Quality of Student Learning and the Student Voice**
- **Future proofing and engagement with the rest of the world**

Each theme is presented below, with key recommendations for the next phases of JOVITAL:

Top-Down and Bottom-Up Implementation

Strategic planning needs to occur with regards to how research, e-pedagogy and institutional support can be harnessed to promote the design and delivery of Online learning. Due to institutional variance amongst the participating HEIs, universities will need to identify their own strategic roadmaps. These road maps need to be aligned to national and regional agendas as outlined in the National eLearning Strategy for Higher Education Jordan. Further, the participating Jordanian universities will need to connect their own satellite E-Pedagogy / E-Learning Centres with the National Centre for Electronic Learning, an Educational Open Resources Centre, due to be launched in Jordan as an IT hub.

In terms of human resources, E-Learning Instructors, Technical Support staff and Academics who already have state of the art e-learning expertise locally, are required to provide training and mentorship to equip academic staff with the required digital competencies. These actors, as experts in e-learning may include students, postgraduates and Doctoral students. The development and integration of these roles across Jordanian HE is still relatively new, and there are gaps in provision. The use of relevant technology and software is important – virtual learning, augmented reality and animation provide academics with tools to make e-learning and online learning more bespoke especially with respect to discipline upskilling. This will require key support staff engagement.

- Policy needs to be embedded at a National and institutional level to ensure effective strategies for integration of quality virtual teaching and learning practices
- Investment in infrastructure will ease process development for online international learning, and ways to transition teaching and learning materials and programmes
- Resources (ICT, use of institutional repositories) are required in those institutions where resources are not available
- Facilitation and support will be required in the integration of participating Jordanian HEIs in its Online International Learning (OIL) global network for virtual international exchange (*with ongoing evaluation as the project progresses*)

Collaborative Creation in Communities of Practice

The establishment of institutional forums and cross institutional forums is required to cater for institutional variance, with respect of academic competencies in the design and delivery of pedagogy for quality online (international) learning. The forums should be developed based on a Communities of Practice framework, to facilitate sharing of experiences and best practice in Jordanian HEIs (Please refer to 5.3: Communities of practice: learning, meaning and identity' p.73), for an overview of a community of practice model.) These forums, offered on an ongoing basis, should be facilitated by local champions in virtual teaching and learning practices at the Jordanian Universities. The forums will focus on the sharing of pedagogical experiences to better understand lecturers' needs with a view to empowering staff and to support their positivity and

ingenuity. This is particularly pertinent for young staff who display a great enthusiasm, and to appreciate why some professors appear less willing to apply digital pedagogies and learning tools. These forums will provide space for dialogue and exchange in which to share and identify institutional and cross-institutional strategies to address the concerns, including specific training needs. Without a community of practice to draw upon, and to share best practice within, the adoption of virtual innovation in online learning might not be as strong and well developed in Jordan as it could be.

- Interdisciplinary of partnership is core and a collaborative approach needs to be adopted
- As the findings of this needs analysis predominantly captured academic practices within STEM subjects, and from males, the full range of disciplines within an institution, and across genders, needs to be represented at such forums
- If the level of expertise is not available in the institution, or if people in the institution are reluctant to adopt new practices in virtual innovative teaching and learning, advocates should collaborate outside of the institution
- The potential of greater impact can be realised when a consortium of institutions collaborates together rather than something happening within just one institution
- Learning resources, context related, can help profile the scholarship occurring in the partner HEIs to inspire and evoke further sharing, collaboration and social commitment across Jordan's HEIs

Supporting Staff in the Design and Delivery of Virtual Teaching and Learning Practices, including use of Open Educational Resources

The most important and recurring needs relate to strategic and technical training, particularly at an institutional level. Most lecturers use online resources readily but there seems to be difficulty assessing how efficient or effective these interactions are. It is also important to assess the quality of e-learning and online learning with particular reference to underlying pedagogy, student-centred learning environments and reliable use of assessments.

- Staff development needs should be prioritised not only in the design of pedagogy for quality online (international) learning, but also for effective online intercultural exchange
- Empirical research can showcase the value of effective e-learning especially when linked with constructivist e-pedagogy, particularly for senior professors who have stated there is no pedagogic value in using e-learning/online
- Staff incentives and/or recognition are required to engage staff in continuous professional development (CPD) and self-improvement
- The effort and focus required for staff to work effectively in a digital world needs to be better acknowledged
- Staff need to be supported to problem solve ways to transition teaching and learning materials and programmes and to license their academic learning resources (in Arabic or local languages) as open education resources (OER)

Enhancing the Quality of Student Learning and the Student Voice

It was evident in the baseline institutional survey findings, that whilst student module and course evaluations are sometimes captured, this practice is not consistent across all institutions, and the analysis of student feedback is not often known. Student satisfaction and feedback is imperative for academic staff to be aware of, in order to help design and deliver best practices

to cater for learner satisfaction, learner engagement and attainment in learning. Students are a university's best asset and have a richness of experience and reciprocal expertise to share, which needs to be known and listened to. Further the findings of this Needs Analysis have evidenced that staff often assume students have the required digital competencies to engage in virtual / online learning. It cannot be assumed that students have the appropriate digital skills, and students need to be signposted to support with regards to enhancing their digital fluency, including their understanding of their identity and privacy profiles when learning in online spaces

- Strategies are required at regional and local levels to address ways to promote equitable access to learning including women, and other disadvantaged learners etc.
- Issues of quality need to be carefully considered and managed for example, processes for capturing student experience, student engagement, measuring learning gain etc.
- Student representatives are required, recruited on each course programmed, at each study level (Diploma, Higher Diploma, Bachelor, Masters and PhD) to share students views. Course Representatives should be invited to feedback at strategic forums. The student body should be informed about how the university is tackling / addressing their feedback
- Virtual teaching and learning need to be accessible to meet a wide range of learner needs including students with learning disabilities
- All student's need to be made aware of and signposted to support services, with regards to enhancing digital fluency competencies for e-learning
- Understanding how computer-mediated communication works, including how students connect with each other and build trust within learning networks is required for effective online intercultural exchange

Future proofing and engagement with the rest of the world

As was noted in the institutional profiles, some of the Jordanian partner institutions are already collaborating on projects with international colleagues and / or offering online courses, accessing global learning communities, however other universities are not yet at this stage. As the project progresses, all partners need to be enabled to offer online international learning opportunities, through internationalisation-at-home initiatives, whereby virtual strategic approaches enable students to engage in pedagogy and assessment with international learners, (similar to e-pedagogy practices currently performed at TUD Dresden, and CU, UK). In addition, an important focus of JOVITAL is how virtual learning opportunities can be made available to people and communities beyond the walls of the institution, and via mobile learning strategies within Refugee Camps in Jordan and beyond.

- Facilitation and support in the integration of participating Jordanian HEIs in its Online International Learning (OIL) global network for virtual international exchange (*with ongoing evaluation as the project progresses*)
- Institutional repositories to make learning materials and contents freely available to others through appropriate licensing of OER content
- Those developing OER already should review their licensing approach and work with their institutions, and others where possible, to help formulate guidelines for OER creators
- Creation / application for further funding to create 'VITAL Hubs' and other mobile learning resources to be used within Refugee Camps
- Opportunities to extend international collaboration amongst partners and associated networks, to promote and continue reciprocal research in virtual innovative teaching and learning

5.2 Communities of practice: learning, meaning and identity

Dr Katherine Wimpenny (2009)¹⁶

Change is often viewed as threatening.

Staff can be made to feel undervalued in what they are currently offering.

Individuals may resist change and potentially exhibit unproductive behaviours which undermine a learning process.

Questions to ask in setting up a Community of Practice forum

- What is the purpose / goal? Is there need to develop a declaration of intention amongst the group members?
- Is it voluntarily/ mandatory?
- How does it feed into the staff personal development and review process locally?
- Which staff are invited to attend?
- Who is/are the facilitators? (expertise)
- Timeframe of commitment? (e.g. 1 x month, 2 hours for 6 months, staff commit to 70% attendance)
- Training of facilitators – pilot cohort? Recruit a team to do this? Students as facilitators / graduates?
- Tasks for each participant to agree to by the end of each session? (this may include cascading to facilitate other groups)

Situated learning

Wenger's (1998) ideas focused on learning together as a means of enabling learning materials to be related to local conditions. The idea of 'social constructionist learning,' knowledge is best assimilated in the contexts in which it has meaning. Jean Lave and Etienne Wenger are among the leading exponents of situated learning, having built their model on Vygotskyian foundations. The notion of learning as a situated activity draws attention to the concept of *legitimate peripheral participation (LPP)* (Lave & Wenger 1991), which has been proposed as a way of describing the learning which takes place in social practice. LPP suggests that there are multiple, varied, more-or-less engaged and inclusive ways of being located in the field of participation defined by a community (Lave & Wenger 1991:36). Furthermore, periphery suggests an opening, a way of growing involvement. Legitimate peripheral participation is thus viewed as a conceptual bridge offering opportunity for the development of identity as people move towards full participation. Lave and Wenger's work teases out how communities of practice tend to reproduce themselves and change, as 'cultural novices' slowly, with guidance from the 'veterans', move from the periphery to the centre – sustaining the community. The critical questions here revolve around the competence and effectiveness of the community, and how it continues to evolve.

Core concepts

Wenger (1998) adds to earlier concepts, focusing on factors such as:

- mutual engagement (a sense of membership in a community of practice)
- joint enterprise (a sense of responsibility toward the community and an ability to contribute to its pursuit)

¹⁶ Wimpenny, K. (2009) Participatory Change: Communities of Practice, PhD Thesis

<https://curve.coventry.ac.uk/open/file/c1fd7f27-ab06-16cc-fed8-a864a1e7a109/1/wimpennycomb.pdf>

- shared repertoire (the ability to make sense of community coherence and make use of resources including, routines, language, gestures and actions which the group adopts over time, and which become part of its practice)

Wenger's (1998) depiction of mutual engagement and joint enterprise provide opportunity to examine the restrictive responses certain participants adopt when faced with new learning. Such dimensions are offered as a means of accounting for the supportive or restrictive responses participants may adopt when faced with new learning situations. In addition, focus is placed on the processes of reification (1998:59).

- Reification - a community of practice is not just about doing or being with others, but importantly involves engaging in a range of different types of processes (for example 'designing, representing, using') in order that group members have a tangible opportunity to experience the new learning. For example, alongside participation is a requirement to share interpretations of the experience in negotiation with others. Reification could be about lecturers developing alternate assessment pathways and piloting their use, and then sharing the impact of such activities in group meeting / learning circle

Wenger's (1998) concept of reification identifies with the importance of achieving a balance between participating and experiencing feedback from doing, which can validate participants' efforts and provide ongoing commitment to be involved. Such practices equally compliment the concept of 'shared repertoire' (Wenger 1998) in terms of 'making sense of the community'.

- Sharing in a community of practice is what enables participants to negotiate the appropriateness of what they do (Wenger 1998:81).
- Raising emotion is an essential part of an enterprise.
- Context is also essential to any change process

Participation

Participation within a learning opportunity is an active process, which involves our bodies, minds, emotions and social relations. Wenger explores the connection between identity and practice, which he asserts is a layering of events of participation in which our experience and its social interpretation inform each other (Wenger 1998:151). The notion of a community of practice provides significant pointers for practice development initiatives where the importance of exchange of knowledge and the building of a sustainable community of competent practitioners are viewed as all-important conditions for learning to take place and subsequent change in practice(s) to occur (Wenger 1998). Wenger (1998) also acknowledges the importance of working with teams / communities already formed. This process of situated learning enables communities to see themselves anew and to start to overcome (cultural) barriers in their environment, which have prevented full participation previously.

Role of the 'facilitator'

Finally, within a community of practice the facilitator may well be viewed as one amongst other 'mentors', their role becoming one of guidance rather than that of knowledge depositor (Freire, 1970).

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Appendices

The Appendices include the search topics included in the literature review, and the research instruments used to collect the data for this Needs Analysis Report

- Appendix 1: Search terms used
- Appendix 2: Baseline Institutional Survey template
- Appendix 3: DIGCOMP Tool

The three other European Partner Profiles are included to complement Dresden's profile as Lead European partner, as presented on page 16.

- Appendix 4: European Partner Profiles

As a potential future partner on JOVITAL, an overview of EDRAAK is also included

- Appendix 5: Edraak Overview

Appendix 1: Search terms used for literature review

Focus: State of the art around the world and particular search around Jordan (this was broadened to the Middle East as the search response was low)

Knowhow and Models: means and methods of delivery

Core themes in 19 key areas:

E-Pedagogies

Learner engagement,

Types of assessment, facilitation,

E-tivities/scenarios/interactivity,

Student digital literacies,

Facilitators

Access to resources

Learning environment and spaces

Tools

Cost effectiveness

Lecturers and others - LTs, Academic developer, Education Developer

Devices

Software - (VR, augmented reality)

Personalisation

Massive, Collaborative – MOOCs, Online learning, Online International learning

Student-centred- Constructivism – scaffolding of knowledge, support for students

Technical infrastructure and design – ease of use, apps, learning design

Research and development

Institutional design practice – IT services support, LT support and Administrative support

Appendix 2: Template used for Baseline Institutional Survey

Recommend survey completed by, for example: Academic Dean/ Vice-Rector for Academic Affairs, E-Learning Lead, International Office Lead

Question prompt	Response
Name of Higher Education Institution and location / city	
Any other campus sites	
Campus: urban / rural	
Year established	
University ranking /Accolades in Jordan	
How many students by level: <ul style="list-style-type: none"> ☐ Bachelor ☐ Masters ☐ PhD or Doctoral students/candidates ☐ Further study students 	
How many students: <ul style="list-style-type: none"> ☐ Full time ☐ Part time 	
Average age of students:	
Percentage female/male:	
What are the preferred terms used by your institution to define: <ul style="list-style-type: none"> ☐ Online/distance learning ☐ International online learning <i>(To help define use of terms locally)</i>	
(Approx.) percentage of students by mode of delivery: <ul style="list-style-type: none"> ☐ Online only/ distance learning ☐ Face-to-face (on-campus) students ☐ Blended (face-to-face and online/distance learning) <i>If possible including per level:</i> <ul style="list-style-type: none"> ☐ Bachelor ☐ Masters ☐ PhD or Doctoral students/candidates ☐ Further study students 	

<p>Do all subjects / courses offer some form of online / distance teaching and learning</p> <ul style="list-style-type: none"> ○ Are some courses or disciplinary areas more prevalent online than others? 	
<p>Are students in Jordan looking for online courses/ programmes - In which level: BA, MA, PhD? (please state)</p>	
<p>How many academics involved in teaching delivery Please define by level (using familiar terms e.g.)</p> <ul style="list-style-type: none"> ○ Full Professor ○ Associate Professor ○ Assistant Professor ○ Teacher Assistants (teachers without a PhD) 	
<p>Proportion of teaching staff who work</p> <ul style="list-style-type: none"> ○ Full time ○ Part time 	
<p>Do you have a National overarching professional standards framework you are working to for Higher Education? (please provide URL as appropriate)</p>	
<p>Do you have a university policy on Online / distance learning? (please provide URL as appropriate)</p>	
<p>Do you have a university strategy on internationalisation (internationalisation abroad and at home)? (please provide URL as appropriate)</p>	
<p>Do you have a local institutional education strategy you are working to – what are the key areas of focus? (please provide URL as appropriate)</p>	
<p>What was the date/year of the first online course delivered?</p>	
<p>Are there any staff incentives for providing online / distance education?</p>	

<p>Are teachers/academics motivated to learn new approaches to teaching and learning using ICT</p> <ul style="list-style-type: none"> ○ What content/topics? ○ Duration (<i>one day, 2-day workshops, just a few hours</i>)? ○ Location (<i>at the home university or together with colleagues from other universities</i>)? 	
<p>Do you have an E-Learning Centre or other Academic Development Centre to support teaching staff in design and delivery of online learning?</p> <ul style="list-style-type: none"> ○ What types of support are provided/offered ○ Do you have identified Online Education champions at your University 	
<p>What platforms, virtual environments or Learning Management Systems are used for standard provision of online learning at your institution?</p>	
<p>Do you have an institutional repository for sharing online educational resources developed by the institution?</p> <ul style="list-style-type: none"> ○ If yes, what kind of content does the repository include ○ Provide link? 	
<p>Do you collect / capture student satisfaction scores / percentages with their online/distance education course delivery</p> <ul style="list-style-type: none"> ○ If yes, what were the percentages for last year? 	
<p>Are there any ongoing or future projects to do with online/distance education at your institution?</p>	
<p>Number of partners with whom you deliver online learning</p> <ul style="list-style-type: none"> ○ Nationally ○ Internationally ○ Details of courses which offer/deliver international online learning 	

Ambition / plans to collaborate with international partners for online learning design and delivery	
What ICT resources are available to staff and students: <ul style="list-style-type: none"> ○ Any concerns with access to computers / iPad/ laptops at the institution ○ ICT support on campus 	
Please add anything else you feel is important to share about your university and online /distance learning	

Thank you for completing this baseline institutional survey, the data from which will be used to inform the needs analysis as part of Work Package 1 JOVITAL <http://www.uni-med.net/en/projects/jovital/>

Once completed (preferably before 22 March, 2018), please return to Dr Katherine Wimpenny, Coventry University, UK.
 Email: k.wimpenny@coventry.ac.uk

Appendix 3: DIGCOMP - Academic Survey

Page 1: Welcome

JOVITAL – Jordan Opportunity for Virtual Innovative Teaching and Learning.

Scientific evidence urges action to modernise teaching practices in Higher Education in the Middle East, including Jordan, by introducing new pedagogical and didactical approaches that foster learner-centred teaching, critical thinking, problem solving, group work, and interdisciplinary collaboration. JOVITAL offers Higher Education Institutions in Jordan a chance to explore, implement, and disseminate state of the art academic practices to enhance online / virtual teaching quality and improve learning outcomes.

This survey is designed to measure how you use online elements within teaching and learning activities at your university. The survey is being conducted by Coventry University as part of the JOVITAL project and this survey has been adapted from the JISC digital discovery tool <https://digitalcapability.jiscinvolve.org/wp/digital-capability-discovery-tool/>

Ethical approval was provided by the Coventry University ethics committee; if you have any questions about this project please contact Dr Katherine Wimpenny by e-mail k.wimpenny@coventry.ac.uk

The data collated in this study will be used to support the development of tools and resources by the JOVITAL project team. The findings from this study will be used in reports, journal papers and at conferences. On these occasions, institutional names will be only be identifiable with consent. You will not be identifiable in any way by completing this survey, the answers are anonymous and confidential. The information will be used to help improve our understanding of online learning within the Jordanian Higher Education sector and the results will be used to inform the next stages of JOVITAL.

There are no right or wrong answers, please answer all questions honestly and as fully as you can. The survey redirects you to appropriate questions based on your responses.

By clicking next to complete the survey you are providing consent to participate. Thank you for your time.

Page 2:

Demographic questions

Which institution are you from?

- German Jordanian University (GJU)
- Princess Sumaya University for Technology (PSUT)
- Tafila Technical University (TTU)
- Jordan University of Science and Technology (JUST)
- Al-Hussein Bin Talal University (AHU)

What is your gender?

- Female
- Male
- Prefer not to respond

What is your subject discipline?

What is your role at the university?

Professor
Associate
Professor
Teaching
Assistant
Technical Staff
Administrator

How long have you been teaching?

Less than a year
1 - 5 years
6 - 10 years
11 - 15 years
16 - 20 years
21 years and above

Page 3: Section 1

Considering there is a 25% cap on Jordanian ONLINE resources do you think this is suitable for Higher Education teaching and learning in Jordan?

Yes
No
I don't know

Would you say this is adequate, or do you think it should be more or less? Optional

I think the 25% cap for online content is just right
I would like to see more online learning
I would like to see less online learning

Page 4: Section 2

How confident would you say you are in using online resources in general? Optional

Highly confident
Moderately confident
Neither confident or not confident
Slightly confident
Not at all confident

Do you use online resources in your teaching and learning practice? ☐ Require

Yes
No

Please tell us why?

Page 5: Planning and preparation

How confident are you designing digital activities to support different learning outcomes?

Highly confident

- Moderately confident
- Neither confident or not confident
- Slightly confident
- Not at all confident
- Not applicable

Which of these options best describes how you plan a learning session to include the use of digital technologies? Please select all that apply.

- I put in place any support I might need
- I plan around the technologies that are familiar to me
- I design digital activities to support the learning outcomes
- I have a range of digital activities I can deploy to meet learners' needs

When planning a learning session or course, which of these do you do?

Please select all that apply

- Look for relevant examples or materials online
- Consider how students could use their own digital devices
- Check students have the digital skills they need
- Provide alternatives in case of any technical issues
- Try new technologies or approaches to challenge yourself
- Share your ideas online with other teaching professionals

Page 6: Learning resources

How confident are you about using digital resources within the rules of copyright?

- Highly confident
- Moderately confident
- Neither confident or not confident
- Slightly confident
- Not at all confident
- Not applicable

Which of the following best describes your approach to choosing and using digital resources for learning? Please select all that apply.

- I provide digital learning resources when I have to
- I find quality learning resources to suit the topic I am teaching
- I find and adapt learning resources to meet my students' needs
- I create my own learning resources, drawing on the best examples

Which of these resource type have you produced for learners to use?

Please select all that apply

- Online quiz
- Video clip
- Voice-over slides
- Image or animation
- Web page or multimedia object
- Simulation, app or game
- Other

Page 7: Accessibility and diversity

How confident are you in assessing digital tools or resources which are accessible for all your students?

- Highly confident
- Moderately confident
- Neither confident or not confident
- Slightly confident
- Not at all confident
- Not applicable

How do you ensure students can access the digital learning opportunities you offer? Please select all that apply.

- I assume they have the devices they need
- I assume they have the skills they need
- I signpost students to sources of support
- I check they have the devices they need for any new activity
- I check they have the skills they need for any new activity
- I design activities that let students showcase different digital skills

Which of these measures have you taken to support digital inclusion? Please select all that apply.

- Help learners to use assistive software or interfaces use legible fonts and colour contrasts
- Provide text alternatives to visual media
- Check students have equitable access to devices
- Design content to be mobile-friendly
- Signpost students to sources of digital support

Page 8: Face to face teaching

How confident are you using presentation technologies in the classroom? Please select all that apply.

- Highly confident
- Moderately confident
- Neither confident or not confident
- Slightly confident
- Not at all confident
- Not applicable

Which of the following best describes your approach to designing a digital presentation for students?

- I make sure I cover everything that's in the note
- I choose images and lay-outs to make it visually engaging
- I use graphics, transitions and interactive elements such as polling
- I use educational design principles and a range of presentation media

Which of these digital activities take place in your face to face classes? Please select all that apply

- Live polling/quizzing

Live internet searches or missions
Learners record ideas e.g. via padlet
Learners make audio/video recording
Learners present their work in a digital medium
Learners collaborate on digital projects

Page 9: Online teaching

How confident do you feel about teaching in a live online environment e.g. webinar platform

Highly confident
Moderately confident
Neither confident or not confident
Slightly confident
Not at all confident
Not applicable

Which of the following best describes your approach to teaching online (whether you are working in a fully online or in a blended setting)? Please select all that apply.

I try to leave online teaching to the specialists
I am comfortable facilitating online discussions (text-based)
I can teach in any online environment e.g. webinar, text-based, video
I use public media e.g. Facebook, blogs, alongside an online platform

Which of these online activities do you set for your students? Please select all that apply.

Live discussion (audio/chat)
Threaded discussion (not live)
Collate links or reference
Collaborate on a presentation or project
Review or annotate each other's work
Contribute to a live wiki or blog

Page 10: Supporting digital capabilities

How confident are you that you support students to become confident digital learners? Please select all that apply.

Highly confident
Moderately confident
Neither confident or not confident
Slightly confident
Not at all confident
Not applicable

Which of the following best represents your attitude to the digital skills students need for work?

Students discuss this with the careers/employability team/student support
I make sure students practice basic digital skills
I set students digital tasks that reflect workplace trends
I make digital futures a key theme for discussion and assessment

Which of the following have you helped learners to achieve? Please select all that apply.

Assess the credibility of online content
Build a positive digital presence and identity
Develop good digital study habits e.g. note-making
Digitally record and reflect on their learning

Learn a new software application
Model appropriate responsible behaviour online

Page 11: Assessment and feedback

How confident are you about marking online assessments and recording student grades?

Highly confident
Moderately confident
Neither confident or not confident
Slightly confident
Not at all confident
Not applicable

Which of these options best reflects your expertise in designing online tests? Please select all that apply.

I can put traditional tests into an online environment
I can write multiple choice questions and quizzes
I use the full range of question types e.g. labelling, ranking, grid
I design engaging assessments using different learning media

Which of the following can you do? Please select all that apply.

Use data to monitor learners' progress
Assess the quality of work in different digital media
Set up and facilitate online peer review
Support learners to collate and reflect on work in an e-portfolio
Give feedback as digital audio or annotations
Assess student performance using a simulation or game

Page 12: Reflection and CPD

How confident are you about keeping up with current practice in digital learning (e-learning, Technology Enhanced Learning, digital education)?

Highly confident
Moderately confident
Neither confident or not confident
Slightly confident
Not at all confident
Not applicable

Which of the following best represents your approach to developing your digital practice as an educator?

It is not a priority for me
I learn to use the virtual learning environment and similar systems
I look for opportunities to develop my digital practice further
Digital education is central to my role and I enjoy sharing my expertise

Which of the following have you done in the past year? Please select all that apply.

Attend a live/online workshop on a digital topic
Contribute to a live/online event on a digital topic
Talk to a mentor / head of department about your digital skills
Record your teaching practice (photo/video) for reflection
Read an article about digital learning
Share teaching materials online with other practitioners

Do you have specific training needs that will enable you deliver online learning or Online International Learning at your university? For example, strategic training, technical training, etc.

Page 13: Finished -Thank you

Appendix 4: JOVITAL European Partner Profiles

Coventry University (CU)

Coventry University (CU) has an established regional, national and international presence, with over 24,000 students in total, including 5,000 international students from 140 countries. Global engagement is a core component of strategic orientation and virtual mobility an important strategy for internationalization of the curriculum; over 60 projects connect students with peers from other universities as part of its Online International Learning Programme (<http://onlineinternationallearning.org/>).

CU has received the award for Innovative Internationalization by the European Association for International Education (EAIE) and the Queen's Award for Enterprise in recognition of its international growth. Open & Connected learning are key areas of interest of DMLL (#3CityLink; Occupational Therapy in an Uncertain World; Telepresence in Theatre – which received Arts & Humanities Award in the Reimagine Education Award, 2017).

CU has extensive experience in the delivery of EU-funded activity; Erasmus experience dates from the 1990's and FP experience dates from FP2. Current projects: ErasmusPlus OpenMed, €871k, raising awareness and widening HE participation in Open Education Practices with a focus on the South Mediterranean region. Lanchester Interactive Archive £600K using new technologies to bring history to life for born digital learners. Beaconing (Horizon 2020 Framework – Coordinator) a large-scale piloting of a digital learning platform blending physical and digital learning spaces. MUSE Erasmus project, working with EU partners to assist Latin American HEIs to set up Accessibility Centres; Tempus SWING - Coordinator, leading project partners in Europe to help develop Accessibility Centres in HEIs in Egypt and Morocco.

CU Role in JOVITAL

CU has extensive experience in the adoption of technology-enabled approaches to Internationalisation of the Curriculum (IoC) and developing capacity building aimed at facilitating the engagement of academic staff in the design and delivery of this type of learning experiences. It will provide scientific advice on best practices in virtual mobility and academic international exchange, based on its own experience and on extensive research that will be conducted in the preparation work package. CU contributes to the project by:

- surveying and demonstrating state of the art and recent trends in ICT-based international academic exchange
- exploring and identifying actual capacity building needs and priorities at each participating Jordanian HEI for successful and sustainable introduction of innovative teaching and learning methodologies
- conducting required research and assessment studies with relevant stakeholders to inform other project partners on appropriate procedures and impact of performed activities
- developing an action plan for aligning capacity building measures with HEIs strategies to achieve a continuous improvement in teaching practices towards established international best-practices
- facilitating and supporting the integration of participating Jordanian HEIs in its Online International Learning (OIL) global network for virtual international exchange

International School for Social and Business Studies (ISSBS)

ISSBS is a dynamic private HEI located in Celje, Slovenia, founded in 2006, with approximately 500 students, delivering study programmes in the fields of economics, business and administrative sciences at all three levels of study (bachelor, masters and doctoral). In 2016/2017 the institution is delivering 6 study programmes (2 bachelor, 3 master, 1 doctoral) partly in Slovenian and partly in English language. The student body consists of mainly students from Slovenia as well as Erasmus mobility students and some students from Balkan area (Kosovo, BiH, Serbia etc.) All the courses are supported by e-learning IT infrastructure allowing for blended learning approach. The strongest orientation of the study programmes relates to management and quality of training and education (e.g. master study programme Management and Quality in Education, as well as master's and doctoral programmes Knowledge Management). Programmes are nationally and internationally accredited by the Slovenian, Austrian and Croatian Agencies for Quality Assurance and Accreditation.

ISSBS is also active in the areas of dissemination of research and publishing. Institution annually organises international scientific conference MakeLearn with participants from over 40 countries, with editors' panels with over 25 distinguished editors of international scientific journals, as well as research and publishing seminars delivered by respected international experts. Together with partners from Poland and Thailand ISSBS established international publisher ToKnowPress focusing on the publishing of scientific monographs and series of scientific journals (e.g. IJMKL, IJSR, IJBDR). In recent years, ISSBS's staff have taken over editorship of many respected international journals such as IJMIE, IJVCML, etc.

ISSBS Role in JOVITAL

ISSBS is responsible for the design and development of training content and qualification programme for academic staff at Jordanian HEIs. Based on its experience in management and quality in higher education, it will undertake tasks including:

- identifying qualification deficits and needs at participated Jordanian HEIs,
- defining objectives, activities, and accreditation of the capacity building programme,
- developing an action plan for the modernisation of HE practices with new learning and teaching methodologies,
- designing and implementing a sustainable qualification programme for continuous staff training and development,
- assisting participated Jordanian HEIs to extend their internationalisation strategies with modern technology-enhanced exchange models,
- developing a best-practices tool for quality benchmark of staff qualification in international exchange competences,
- implementing and monitoring a holistic quality control and assurance mechanism for the project.

Mediterranean Universities Union (UNIMED)

UNIMED, Mediterranean Universities Union, founded in October 1991, is a network of 94 Universities from 22 countries of both shores of the Mediterranean (www.uni-med.net).

UNIMED's aim is to develop university research and education in the Euro-Mediterranean area in order to contribute to scientific, cultural, social and economic cooperation, acting in as many fields as fields are present in the capability of its Universities. UNIMED supports its Universities through the following activities: promotion of the international dimension of the Universities, planning and fund-raising activities, partnership search, promotion of mobility in the Euro-Mediterranean region, technical assistance for the enhancement of quality assurance in university education, creation of thematic Sub-Networks to foster the scientific cooperation within specific fields, organization of meetings, discussions, seminars and round tables both at a national and international level, training for academic and administrative staff of Universities and in particular for the IRO staff.

Through the many activities and initiatives carried out over the two decades, UNIMED has promoted the collaboration between universities of the Mediterranean, becoming a point of reference of the international university cooperation. In addition, UNIMED offers a permanent support to the Rectors, Presidents and IRO offices of its associated Universities.

UNIMED Role in JOVITAL

UNIMED plays a significant role in the outreach and sustainability of the project by bringing in its established networking capacity between HEIs in programme countries and south Mediterranean neighbourhood partner countries. It is responsible for the dissemination and exploitation of project activities and results and will undertake tasks including:

- developing an effective dissemination and exploitation plan
- implementing a multi-channel public communication strategy
- designing and setting-up interactive project online presence (website, social media, newsletter,...)
- designing and producing dissemination materials (flyers, posters, gadgets...)
- editing and publishing exploitation materials (public reports, white papers, best-practices,...)
- organising and coordinating local dissemination events (information sessions, know-how workshops, open meetings,...)
- presenting project results on regional and international conferences and networking events

Appendix 5: Edraak Profile

Edraak's profile is included here as it is expected that EDRAAK may play a role within the project to support the future online education programmes from the participating HEIs. However, this is yet to be formalised.

This content about Edraak is referenced from Wimpenny, Merry, Tombs & Villar-Onrubia, 2016) <https://openmedproject.eu/results/compendium/> and was completed by Dr. Sufyan Almajali, Dr. Abdullah Alzoubi, and Dr. Omar Hasan Ootom, Princess Sumaya University for Technology, Jordan.

The Edraak Initiative

In 2013, Queen Rania Foundation (QRF) in Amman/Jordan has launched an initiative called Edraak with the intention of delivering quality education to the Arab world for free using a new and unusual approach in the region. Edraak is a massive open online course (MOOC) platform, and is the first not-for-profit Arabic online education platform.

Edraak MOOC courses are built by leveraging the edX platform. EdX is a not-for-profit enterprise composed of 29 leading global institutions founded by Harvard and MIT: QRF signed an agreement with edX in 2013.

QRF has launched Edraak with three main objectives.

Edraak will allow Arabic learners to access education delivered by the best Arab professors, offering original Arabic courses - developed by QRF - to further enrich Arab education. In addition to originally developed content on Edraak, the platform will also give Arab learners access in Arabic to courses taught and developed at top tier institutions such as Harvard, MIT, and UC Berkeley. Edraak will be responsible for translating these course into Arabic. All courses are delivered at no cost to the learner.

QRF envisions exposing Arabic learners, via the Edraak platform, to Arab role models by delivering short online courses by professionals from a variety of fields.

QRF believes that the platform will enable the Arab world to take advantage of the international interest in regional affairs to tell its own story to the world. Arab university professors and regional experts can use the Edraak platform to give courses in English about the region and its history.

Edraak was founded by QRF in partnership with Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, UAE. In addition, Edraak is sponsored and supported by the Mikati Foundation based on Lebanon and the Arab Fund for Economic and Social Development based on Kuwait. So far, Edraak has been able to create 31 MOOC courses; more than 435,000 learners have attended these courses and more than 30,000 certificates have been issued.

Key Aspects of the Initiative

Edraak Structure

The Edraak platform is part of QRF, which is a non-governmental organization (NGO). Edraak has three aspects: Business Development, Operations, and IT Development.

Figure 1: Edraak Structure

The business development aspect is responsible for the marketing and production of Edraak online courses. Edraak conducts several marketing activities to reach Arabic learners, including social media, newspaper advertisements, and online advertisements. In addition, this aspect is responsible for searching for quality courses to deliver, according to learner demand. Edraak runs surveys and collects feedback on preferred topics by Arabic learners.

Edraak funding comes from two sources. The first source is the donations and grants that come from partners and sponsors. The second source comes from consultation services offered by Edraak to different institutions. One example of these consultation services is the service offered to Dorood, which is a Saudi Arabian national initiative that offers online courses via its MOOC platform. Edraak plans to make consultation services a major source of funding in order to continue its operations without reducing its main objective of offering quality education in Arabic at no cost.

The operations aspect of Edraak is responsible for managing the online courses. This includes running the courses, reviewing the courses, collecting feedback, monitoring the quality, and continuously improving the courses.

The IT aspect is responsible for developing the online courses in Arabic. This requires a lot of preparation such as videos, bug fixes in contents, RTL (Right to Left) support to enable Arabic contents on the edX platform, edX module maintenance, and updates for Arabic language support. The Edraak technical team is composed of six software developers/engineers. The Edraak technical team contributed the RTL feature back to the edX platform in order to allow the support of languages written right to left.

Edraak runs its courses on its own online cloud servers. It uses flexible high-end cloud computing solution that allows the scaling of resources up or down according to the number of offered courses and registered users.

Course Selection Process

80% of Edraak courses are developed by Edraak fully in Arabic, while 20% are edX courses translated by Edraak. Edraak uses two different approaches for course selection. One is based on learners' and employers' demands, and another is based on opportunities to offer high quality courses when a highly qualified institution or individual is willing to offer such a course.

As stated earlier, Edraak runs surveys to collect feedback about desired courses and contents. In this case, Edraak searches for a qualified instructor to teach the course. In some cases, Edraak will translate an already completed course from edX.

Course Process

Each course at Edraak runs through a cycle of three stages as illustrated below.

Figure 2: Edraak Course Process

In the first stage, the course is offered for the first time. Each course is assigned one or more instructors and two TAs. Some courses may have three instructors. Students take two surveys each time a course is offered: a Course Entry survey and a Course Exit survey. In addition to the surveys, feedback is collected via other means. Edraak analyses the surveys and collects feedback as part of its quality monitoring and course improvement process. This might result in modifying the course contents. The process repeats by rerunning the course twice more, as the second stage of the course offering. In the final stage, the course becomes self-sufficient with minimum instructor intervention. Once it becomes self-sufficient, students can register on it at any time and take advantage of the course content.

Course Content and Structure

Each course includes several online sessions/meetings, with one meeting per week. Meetings include watching a total of one hour of recorded videos, divided into smaller videos (7 minutes each). A 7-minute length of video was selected having consulted international studies. Learners have the option to take exams and complete assignments in each session.

In addition to videos, the course includes the following contents:

- Documents of different formats (Microsoft Word documents, slides, spreadsheets, images, etc.);
- Links;
- Discussion forums.

A discussion forum tool allows strong interaction between the learners and with the instructors during the course time. Learners can help each other to understand new content, under the supervision of instructors and TAs. In addition, learners can communicate with instructors/TAs outside of class time.

Course Grading and Certification

Each course has a minimum passing score that varies from course to course. In order for a learner to receive a certificate of course completion, learners are required to take the assessments and assignments allocated within the course and to attain the minimum passing score of that course.

Course Accreditation

In general, the Ministry of Higher Education (MoHE) does not officially accredit the certificate of completion for a course issued by Edraak. However, there is an exception to that: German Jordan University has arranged with Edraak to offer one of its general elective courses, “National Education”, to be run via the Edraak platform. For students who take and pass this course it will

count as three credit hours. This is under experimentation and, according to Edraak, new instructions from MoHE will allow students to take a certain number of courses via online platforms such as Edraak.

Course Content Rights and Licensing

The instructors who teach the courses own the rights to the content of Edraak courses and can specify the rights to be all rights reserved, or use CC licenses. The rights to the content that is made in cooperation with Edraak is owned by both Edraak and the instructor. In general, Edraak uses a CC License with Attribution CC BY option. Some courses are not CC.

Learner Perspective

The table below shows statistics collected by Edraak which show the learner profile and overall course statistics.

General Statistics	
Most Common Age Gap	19-28
Have completed Bachelor's Degree	50%
Percentage of Female Learners	45%
Learners' Countries
Number of Courses Offered	31
Number of Learners	435,000
Number of Issued Certificates	30,000

Table 1: Learner Profile and Overall Course Statistics of Edraak

Statistics show that the majority of learners are either at the age of undergraduate students or are graduates who are looking to improve their skills. Learners at pre-university stage have not yet taken advantage of this platform. This could be due to the nature of the courses offered so far. Edraak has succeeded in reaching the Arab world, as many of the learners come from different Arabic countries. In addition, the majority of learners do not come for certificates: they come for knowledge and course contents.

In an interview conducted with one of the learners, Arch. Maysoon, she shared her experience of Edraak courses. She had taken three different courses using the Edraak platform. The courses were as follows:

- Entrepreneurship Who is Your Client from MIT courses;
- The modern Arabic City from Urban Planning Perspective;
- The Six Factors of Success.

In general, she was thrilled with the platform. She finished one of the courses completely, and finished more than half of the course for each of the other two. Maysoon said that she is looking for knowledge more than certificates. Maysoon liked the short videos approach, and liked most the openness of the platform as she can still access the material of all of the courses that she took at Edraak. Maysoon read about Edraak in newspaper articles and Facebook posts. According to her, it was a positive experience overall, which she benefited from, and she registered for new courses and recommended the platform to others.