**WORK PACKAGE 4 – CAPACITY BUILDING**

**WG 3: Innovative ways of learning key competences**

**TEMPLATE FOR COLLECTION OF GOOD PRACTICES**

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| **Name of the best practice** | Augmented Reality for Care and Health (ARCH) |
| **Country** | Northern Ireland |
| **Description** | A suite of interactive resources were developed for vocational learners studying health and social care; and specifically for those learners who are in work placements, supervised by nursing staff. Accessing the resources is via handheld mobile Smart devices. After downloading the augmented reality app (Zappar), students can scan trigger images located in a small booklet, and open and explore the learning resources contained within it. Learners can engage by watching video demonstrations and reading about how to use a range of medical devices for clinical practice. Devices include: Blood pressure monitor (manual and automated), pulse oximetry, nebuliser, ECG and Glucometer. Learners can also log their learning by completing multiple choice questions that are linked to their virtual learning environment i.e. Moodle/Canvas. Teachers can access this learning environment to monitor and evaluate learning competencies in real-time, and during practice sessions outside of classroom time. |
| **Who is involved? How were they motivated to participate?** | ARCH developers include educators and technology enhanced learning experts from North West Regional College. ARCH was developed using funding from University For Industry (UFI) Charitable Trust, following a seeding competition, to assist workplace learners who are unable to access education due to working constraints, or those who are attending part-time education but would benefit from continuous teacher engagement. ARCH leaflets are provided to learners who are enrolled on vocational Health and Social Care courses, and where placement is a requirement for their studies. Learners are encouraged to access the resources to support their clinical understanding of physiological measurements and medical devices used in the health and social care contexts. |
| **Benefits** | Online resources are freely accessible via a Smart mobile device. The ARCH resource has been tested by end users and learners involved in the test/retest phase have expressed value, efficiency and effectiveness in terms of learning outcomes achieved.  Impact on Understanding, learning and participation – Course participants:   * Resources support learning on the go (on demand learning content) * Self-checking of learning content contained throughout the multiple-choice questionnaires * Promotes learner motivation to master skill and technique * Promotes self-confidence for learners to engage in a range of clinical practices   Impact on Commerce & the Economy:   * Provides solutions for industry (health and social care contexts) to promote safe and effective practice and training in carrying out physiological and clinical measurements of vital signs * Free training suite of resources, enabling industry to encourage CPD for all staff, that will positively impact the quality of service provided to service users |
| **Challenges and how they were overcome** | Funding to support the development of ARCH resources:   * Competitive bid for funding from UFI obtained to support the development of curriculum content and interactivity (augmented reality triggers)   Assessing the demand for clinical skills for nursing and social care staff to implement (non-professional roles):   * Focus group discussions and surveys conducted with local health and social care providers to assess the demand for staff in caring and social care roles to be able to carry out and record physiological measurements. * A range of medical devices and measurements were identified, which formed key curriculum content.   Developing high quality learning materials:   * Dedicated staff from North West Regional College were identified to participate in the development of bespoke and high-quality learning materials. * Content developers included professional Nursing staff who had expertise in the measuring and recording of physiological measurements (vital signs). * Technology Enhanced Learning experts used course authoring software to develop rich resources (packed with video, imagery, text, multiple-choice questions and links to virtual learning environment formal assessments). These experts developed trigger images for augmented reality to connect with. * When resources were developed, staff from North West Regional College tested them with a range of health and social care learners; feedback obtained, and resources edited to improve overall functionality.   Implementing augmented reality software:   * During the course of the development of the resources, Aurasma was selected as the software application to develop augmented reality content. After its closure, the resources were transcribed through Zappar to ensure accessibility remains and users can continue to use the learning materials as and when required. |
| **Step by step for the implementation of the good practice (transferability to other VET college)** | 1. Identify learners’ clinical skills needs as per curriculum area in health and social care 2. Download and print augmented reality leaflet (trigger images included) 3. Download augmented reality app to smart device (Zappar) 4. Demonstrate in the classroom environment how to access and use the learning resources 5. Encourage learners to engage in learning materials whilst on work placement, or working in clinical environments 6. Teachers to monitor level of engagement via virtual learning environment |
| **Target group** | Learners attending work placement or working contexts (paid employment) in a range of Health and Social Care environments. |