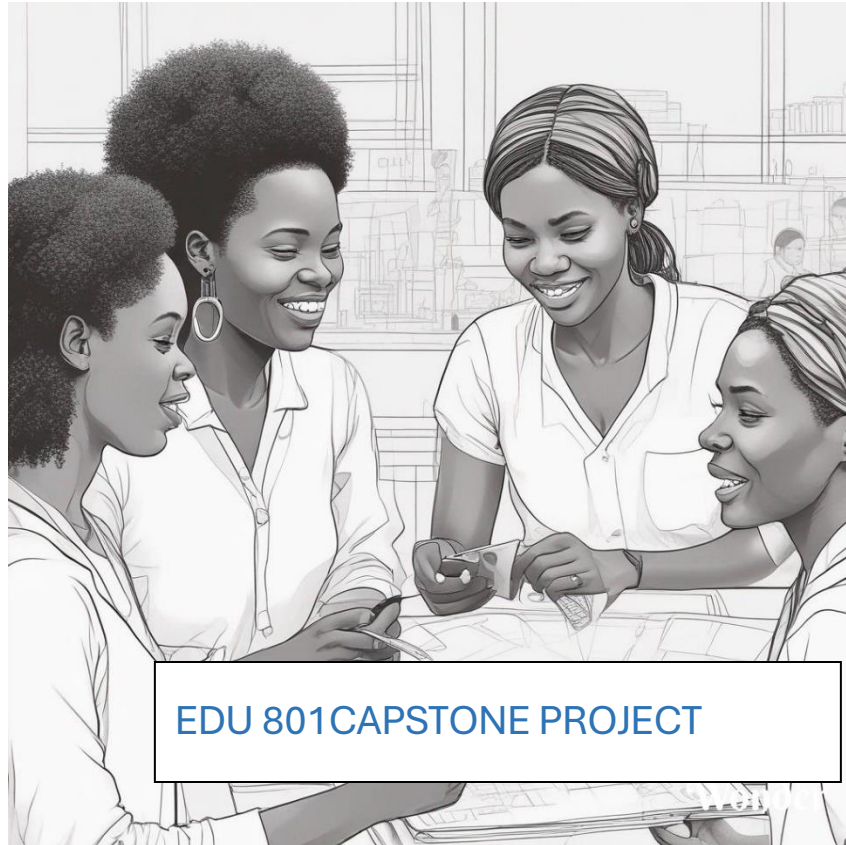
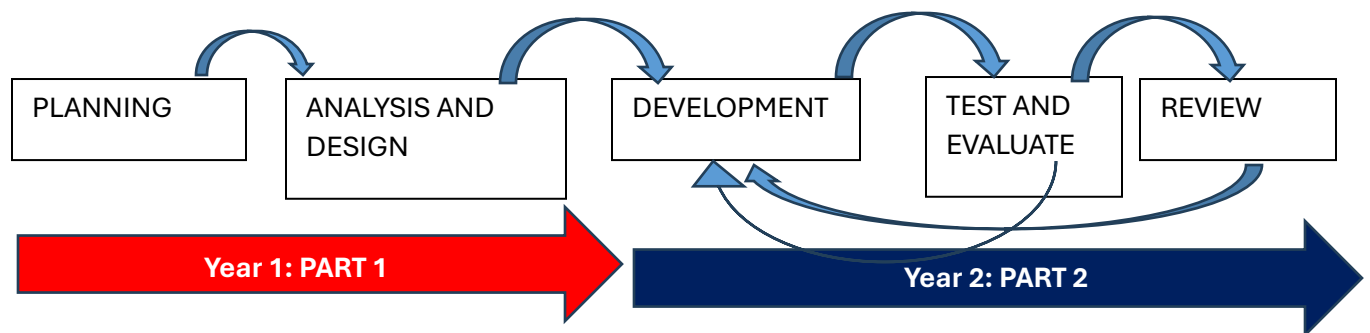




**Developer:** Dr. Alfred Kitawi  
**Programme:** Master of Education in Learning  
Design and Technology

# INTRODUCTION

The capstone project is aimed at translating the theories learned in various modules in the learning design and technology programme into practice. It will be divided into two parts: part 1 will be proposal development and part 2 is the actual implementation/deployment of the capstone project including reviews. The following framework provides the methodology of the Capstone project:



## Overall course aims

The Learning Design and Technology capstone project aims to develop innovative learning technology solutions that address diverse learners' needs. By applying theoretical knowledge from previous courses, the student identifies specific learning challenges and design effective technological interventions. These solutions will empower learners to reach their full potential and contribute meaningfully to solving societal problems.

The proposal will be done and completed in year 1 and the actual complete project document in year 2. Specific learning outcomes for each year have been presented later:

**Credit hours:** 50 for first year and 50 for second year (10 coaching hours added, though the number of coaching hours can increase depending on student need. Coaching is to be done concurrently with the 50 hours identified for each year- ideally there should be a minimum of 4 hours of coaching for year one and 6 hours of coaching for year 2).

**Instructional hours:** 100

**Pre-requisite:** -

## Module and module hours

| Year         | Definition of module                    | Hours            |
|--------------|-----------------------------------------|------------------|
| Year 1       | Introduction to capstone project        | 6                |
| Year 1       | Capstone project coaching               | 4                |
| Year 1       | Communicating Capstone project outcomes | 6                |
| Year 1       | Planning                                | 8                |
| Year 1       | Planning-Design thinking                | 6                |
| Year 1       | Planning-Learner Centred Design         | 6                |
| Year 1       | Literature review                       | 8                |
| Year 1       | Analysis and Design                     | 6                |
| Year 2       | Development-Prototyping                 | 12               |
| Year 2       | Testing and evaluating                  | 18               |
| Year 2       | Review and Feedback                     | 12               |
| Year 2       | Capstone project coaching               | 6                |
| Year 2       | Presentation and defence                | 2                |
| <b>Total</b> |                                         | <b>100 hours</b> |

## MAPPING OF PROGRAMME LEARNING OUTCOMES TO SPECIFIC(SUBJECT) LEARNING OUTCOMES

| Programme Learning outcomes (PLOs)                                                                                                                                                            | Course Learning Outcomes (CLOs)                                                                                                                                     | Year   | Aligned with which courses                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------|
| Discuss principles of constructive alignment in Learning design, facilitation, and assessment                                                                                                 | Analyse the learning problems and create concept maps and scenarios including context needs                                                                         | Year 1 | EDU 801; EET 803: PGDE 707                   |
| Analyse the process of selecting and integrating appropriate educational technologies to support diverse learning designs, facilitation, and assessments in different instructional settings  | Examine and explore learning problems in smart ways including the nature of learning environments (formal and informal) and infrastructural needs and possibilities | Year 1 | LDT 815; ELP 803; ELP 807; PGDE 705; STM 902 |
|                                                                                                                                                                                               | Design of learner capacities                                                                                                                                        | Year 1 | MLDT 811; SFT 801; ELP 901; ATF 107          |
| Utilize various educational technologies to support diverse learning design, facilitation, assessments in different instructional settings                                                    | Design of solutions through design thinking with an emphasis on inclusivity                                                                                         | Year 1 | ELP 809; COT 801; CSA 803                    |
|                                                                                                                                                                                               | Identification and rationalization of appropriate technologies (access and use cases)                                                                               | Year 1 | CSA 802; CDS 807                             |
|                                                                                                                                                                                               | Evaluate methods of deploying solutions through various integration theories already learned                                                                        | Year 1 | EDU 900; CDS 807                             |
| Develop an open minded yet critical attitude towards evaluating educational technologies for their effectiveness in diverse learning designs, facilitation techniques, and assessment methods | Testing and implementation of solutions (client feedback)                                                                                                           | Year 2 | PGDE 701; STM 902                            |
|                                                                                                                                                                                               | Evaluation of learning solutions to the extent they resolved learning needs                                                                                         | Year 2 | LDT 815; EPL 801                             |
|                                                                                                                                                                                               | Feedback and reflection of capstone project                                                                                                                         | Year 2 |                                              |

#### Part 1: SPECIFIC (COURSE) LEARNING OUTCOMES

1. Analyse the learning problems and create concept maps and scenarios including context needs.
2. Examine and explore learning problems in smart ways including the nature of learning environments.
3. Design of learner capacity needs
4. Design of solutions through design thinking with an emphasis on social inclusivity.
5. Identification and rationalization of appropriate technologies that will be deployed (access and use cases).

#### Part 2: SPECIFIC (COURSE) LEARNING OUTCOMES

1. Evaluate methods of deploying solutions through various integration theories.
2. Testing and implementation of solutions (client feedback).
3. Evaluation of learning solutions to the extent they resolved learning needs in society.
4. Feedback and reflection of capstone project.

# COURSE CONTENT

## PROPOSAL STAGE

PLANNING: Learning needs/problems; how the user/clients learn; DESIGN: Learning centred design; Introduction into phases of design thinking; Design thinking (empathize-understanding of users); Define-research where problem emanates and actual gaps (where learning problems exist); examine how the user learns; Ideate-possible solutions, (creative ideas); Design prototype- learner capacities and solutions; Inclusivity-Design the specifics of prototype will meet diverse learning needs; ethical issues in design; DEVELOP: Feedback design; use of appropriate frameworks aligned to appropriate technologies; Agile methodology and principles-Kanban (where possible work on sprints); Integrating evaluation into development

## IMPLEMENTATION AND COMPLETION STAGE

TEST AND EVALUATE: Test- iterations and feedback from users (learning needs and expectations); issues of maintenance of learning solution; sprint review and retrospective; DEPLOY: Scaling of solution- putting the vision into effect; REVIEW AND FINALIZATION: Feedback and reflection of capstone project.

## Teaching and Learning Methods

1. Prototyping through agile techniques
2. Peer mentoring and coaching
3. Collaborative learning
4. Storyboarding and where applicable creating of videos
5. Project based learning.
6. Flipped classrooms.

## Course Assessment

| Section                                                      |           |
|--------------------------------------------------------------|-----------|
| Reviewing capstone project and responses (module activities) | 25 marks  |
| Capstone project documentation                               | 25 marks  |
| Coaching                                                     | 10 marks  |
| Capstone project solution                                    | 40 marks  |
| Total                                                        | 100 marks |

### Formative assessments

The formative assessments include reviewing capstone project responses within module activities (25 marks-25%), Capstone project documentation (25 marks- 25%- split into 10%-10 marks in the first one year and 15 marks in the second year), Coaching (10% split into 4% in the first one year and 6% in the second year).

### **Summative assessment**

The summative evaluation is the capstone product or solution which is 40% of the overall marks (16 marks-16% in the first year and 24% in the second year).

## **LIST MODULES**

|                                                           |    |
|-----------------------------------------------------------|----|
| EDU 801CAPSTONE PROJECT .....                             | 1  |
| Teaching and Learning Methods .....                       | 6  |
| Course Assessment .....                                   | 6  |
| MODULE 1: INTRODUCTION: WHAT IS A CAPSTONE PROJECT? ..... | 9  |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 9  |
| WHAT'S NEXT?.....                                         | 14 |
| MODULE 2: CAPSTONE PROJECT COACHING .....                 | 15 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 15 |
| WHAT'S NEXT?.....                                         | 18 |
| MODULE 3: COMMUNICATING CAPSTONE PROJECT OUTCOMES .....   | 19 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 19 |
| WHAT'S NEXT?.....                                         | 23 |
| MODULE 4: PLANNING- PHASE 1 .....                         | 24 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 24 |
| WHAT'S NEXT?.....                                         | 29 |
| MODULE 5: PLANNING- DESIGN THINKING .....                 | 30 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 30 |
| WHAT'S NEXT?.....                                         | 33 |
| MODULE 6: PLANNING-LEARNER CENTRED DESIGN .....           | 34 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 34 |
| WHAT'S NEXT?.....                                         | 36 |
| MODULE 7: LITERATURE REVIEW .....                         | 38 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....       | 38 |

|                                                                                                                      |    |
|----------------------------------------------------------------------------------------------------------------------|----|
| WHAT'S NEXT?.....                                                                                                    | 41 |
| MODULE 8: ANALYSIS AND DESIGN.....                                                                                   | 42 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....                                                                  | 42 |
| WHAT'S NEXT?.....                                                                                                    | 45 |
| MODULE 9: DEVELOPMENT (PROTOTYPING) .....                                                                            | 46 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....                                                                  | 47 |
| WHAT'S NEXT?.....                                                                                                    | 50 |
| MODULE 10: TESTING AND EVALUATING.....                                                                               | 51 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....                                                                  | 51 |
| WHAT'S NEXT?.....                                                                                                    | 55 |
| MODULE 11: REVIEW AND FEEDBACK .....                                                                                 | 56 |
| INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES .....                                                                  | 56 |
| WHAT'S NEXT?.....                                                                                                    | 59 |
| CAPSTONE PROJECT FORMAT .....                                                                                        | 60 |
| +REFERENCE LIST AND FURTHER READING .....                                                                            | 64 |
| REQUIREMENT CHECKLIST FOR A CAPSTONE PROJECT TO BE COMPLETED BY STUDENTS<br>AS THEY PROGRESS THROUGH THE COURSE..... | 65 |
| SAMPLE PORTFOLIOS .....                                                                                              | 68 |



## MODULE 1: INTRODUCTION: WHAT IS A CAPSTONE PROJECT?

INSTRUCTIONAL HOURS: 6

### Module Overview

In this module, you will discover what is a capstone project and what differentiates it from other projects, including thesis or dissertation. It will also provide the critical principles for a successful project and the benefits of a capstone project.

### Learning Outcomes

At the end of this module, you will be able to

1. Explain what a capstone project is
2. Differentiate capstone projects from other projects.
3. Highlight the critical ingredients (principles) in a capstone project.
4. Analyse the social aspects of capstone projects.



### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

The capstone project is where students work on real world problems. In this case, problems which also have social significance. It serves as evidence of academic, intellectual, and professional competencies attained. It is important that for a capstone project, each student has a mentor or coach who accompanies the student throughout the full process. Capstone projects are used in practitioner courses or degrees and have some differences with theses. In a capstone project, students demonstrate they are ready for the world of work and

practice. How they have explored, identified, extended, and applied solutions to problems. Capstone projects may involve innovation and entrepreneurship, service learning, creation and building, connection and collaborating.

Theses do not necessarily need to be tied to practice and typically are broad and for the purposes of knowledge generation. The similarities are in each case, they both address a problem and involve a systematic process. There is review of literature in both cases (though with varying insistence on what literature counts as important), presentation of outcomes or results and conclusions.

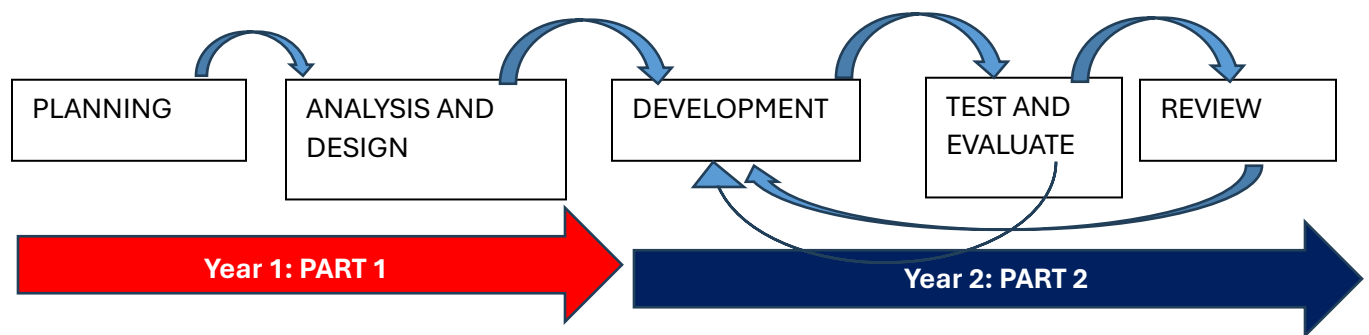
Capstone projects that have a social bent, and which is the case in this programme, are designed to foster critical thinking and to develop written and oral communication skills as well as research skills. It requires a student to demonstrate knowledge of human behaviour and social environment, theoretical frameworks applicable in various disciplines and engagement with different constituencies. A student will be required to collect and organize data and apply critical thinking to interpret information. The intervention goals and objectives will be based on the critical assessment of strengths, needs and challenges within constituencies and the intervention strategies will be based not only on data but on values and cultures (Poulin, Kauffman, & Ingersoll, 2022).

Principles for successful capstone projects are:

1. Taking a whole program approach to curriculum design- embedding it as a critical part of the whole program and communicating expectations early enough. The learner should know what will be expected at the end (assessment).
2. Linking the capstone project to programme learning outcomes and which should be linked to institutional learning outcomes (evaluation).
3. Completing the capstone project incrementally as knowledge, attitudes and skills are being acquired (integration and closure).
4. Having clear evidence e-portfolio of the progress of the capstone project together with having a clear system and support follow-up mechanism, i.e. coaches.
5. Enhances students' capacity to engage in diverse professional contexts.
6. Ensuring that those participating in the capstone project feel valued and in the case of this specific capstone project, as part of a community (engagement).
7. Having clear checkpoints and deliverables throughout the whole programme.

Benefits which a capstone project provides a student are overall personal development, create and improve skills required by employers in the world of work and prepares a person for the outside world including having a credible portfolio.

Phases of the Capstone project



The capstone project is divided into two parts, the first part, the proposal stage, is the foundation stage where a student is supposed to plan, analyse and design the phases of the project. This is based on specific learning needs. The second phase is the actual development of the solution, testing, iterating, evaluating and reviewing the success of the solution (product). During these stages, a student will be compiling a narrative (capstone project documentation) to accompany the different phases. The format of the narrative is presented in the capstone project rubric. Each capstone project will have a portfolio attached at the end of the narrative, and it will vary with the nature of the project.

Critical to the capstone project are coaching and peer mentoring sessions which should be done at each stage within the two years. The capstone project distribution of marks has four components: a) reviewing the capstone project and responses to the different modules; b) capstone project documentation (narrative); c) coaching; d) capstone project product (solution). The distribution of marks are as follows:

| Section                                                      | Marks     |
|--------------------------------------------------------------|-----------|
| Reviewing capstone project and responses (module activities) | 25 marks  |
| Capstone project documentation                               | 25 marks  |
| Coaching                                                     | 10 marks  |
| Capstone project solution                                    | 40 marks  |
| Total                                                        | 100 marks |

Distribution of marks for each module of the capstone project within the two years

| Description<br>(completion of activities) | Complete Marks<br>(Exceeds expectations)<br>[Completes all requirements beyond satisfaction] | Above expectations<br>[Completes all requirements and shows some additional input] | Meets completion of activities (Meets expectations)<br>[Meets the standard expectations] | Not undertaking any activity (Below Expectations)<br>[Does not meet any expectation] |
|-------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Module 1: capstone project                | 2 marks                                                                                      | 1.5 mark                                                                           | 1 mark                                                                                   | 0                                                                                    |
| Module 2: Coaching                        | 2 marks                                                                                      | 1.5 mark                                                                           | 1 mark                                                                                   | 0                                                                                    |
| Module 3: Planning                        | 2 marks                                                                                      | 1.5 mark                                                                           | 1 mark                                                                                   | 0                                                                                    |
| Module 4: Communication                   | 2 marks                                                                                      | 1.5                                                                                | 1 mark                                                                                   | 0                                                                                    |
| Module 5: Design thinking                 | 2 marks                                                                                      | 1.5                                                                                | 1 mark                                                                                   | 0                                                                                    |
| Module 6: Learner Centred Design          | 2 marks                                                                                      | 1.5                                                                                | 1 mark                                                                                   | 0                                                                                    |
| Module 7: Literature review               | 2 marks                                                                                      | 1.5                                                                                | 1 mark                                                                                   | 0                                                                                    |
| Module 8: Analysis and Design             | 3 marks                                                                                      | 2.5                                                                                | 2 marks                                                                                  | 0                                                                                    |
| Module 9: Prototyping (Development)       | 3 marks                                                                                      | 2.5                                                                                | 2 marks                                                                                  | 0                                                                                    |
| Module 10: Testing and evaluating         | 3 marks                                                                                      | 2.5                                                                                | 2 marks                                                                                  | 0                                                                                    |
| Module 11: Review and Feedback            | 2 marks                                                                                      | 1.5                                                                                | 1 mark                                                                                   | 0                                                                                    |
| Total                                     | 25 marks                                                                                     |                                                                                    |                                                                                          |                                                                                      |

It is be noted that in the above section, the module assignments are connected to the creation of capstone project documentation. This implies that as students complete the assignments, they are also at the same time completing the capstone project documentation.

The distribution of marks in the actual solution is as follows:

| Description                                                  | Marks    |
|--------------------------------------------------------------|----------|
| Product Design (Year 1)                                      | 10 marks |
| Development (Year 2)                                         | 20 marks |
| Final product (with market viability/applicability) (Year 2) | 10 marks |



### VIDEO 1: WHAT IS A CAPSTONE PROJECT?

<https://www.youtube.com/watch?v=yBs2Vb5Hf54>



### VIDEO 2: WHAT IS A CAPSTONE PROJECT:

<https://www.youtube.com/watch?v=9NEAVBOBV18>



### VIDEO 3: LEARNING AND DEVELOPMENT IN TECH:

<https://www.youtube.com/watch?v=SBT9t1V1BLc>

## MASTERY EXERCISE 1.1

1. Explain a capstone project in your own words (L&D) and *upload your responses onto the discussion forum.*



## Quiz/Questions

1. What is the difference between a capstone project and a thesis?
2. What are the various forms of capstone projects?

*Post your answers to each of the above questions onto the discussion forum.*



## REFERENCE LIST AND FURTHER READING

1. Chappell, K., & Voykhansky, G. (2023). Capstone projects in education: learning the research story. *Open Educational Resources.*, 9, 3-5. Link: [https://scholars.fhsu.edu/all\\_oer/9/](https://scholars.fhsu.edu/all_oer/9/)

2. Koenig, V. (2023). Pre-planning for your capstone project. In V. Koenig, *Optimizing your capstone experience*. Open Touro. Link:  
<https://pressbooks.pub/optimizingyourcapstoneexperience/chapter/chapter-1/>
2. Koenig, V. (2023). Pre-planning for your capstone project. In V. Koenig, *Initial planning of your capstone project*. Open Touro. Link:  
<https://pressbooks.pub/optimizingyourcapstoneexperience/chapter/chap-2-initial-planning-for-your-capstone-project/>

## WHAT'S NEXT?

- Module review questions and uploading to the discussion forum
- Module 2: Capstone project coaching



## MODULE 2: CAPSTONE PROJECT COACHING

INSTRUCTIONAL HOURS: 2 for each of the five stages (total 10 hours)

### Module Overview

In this module, you will learn how you will be supported by a coach through the capstone project and the necessary ingredients. It will present the essential aspects needed during coaching and what to remember during each coaching session.

### Learning Outcomes

At the end of this module, you will be able to



1. Explain what a coach is.
2. Analyse the nature of a coach and a coachee.
3. Examine how you will keep track of the coaching sessions.
4. Reflect and review the capstone project experience.

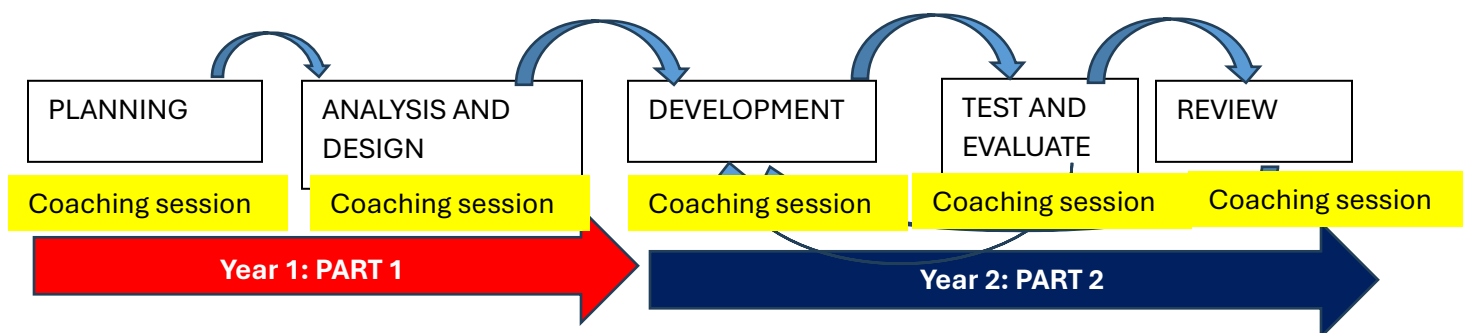
### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Coaching is a conversation, or series of conversations that one person has with another. What makes the conversation different from others is the impact the conversation has on the person being

coached (coachee). The person to judge if a conversation was a coaching conversation or not, is the person being coached. This implies the conversation must be about their situation (in this case the project), they have benefited from the conversation and if the conversation had not happened, it is unlikely they would have had the benefits within the time limit. A personal coach should work within arranged coaching sessions. The coach facilitates a process of inquiry and discussion, for example by listening, questioning, and offering summaries and observations (Starr, 2021). It is important that the coachee journals the conversation and examines how this influences the next steps in the capstone project. This may be supported by the coach in facilitating the decision-making process. The coaches will work with a less directive style, implying the coaches must take ownership of the entire process. This implies that the coach will give suggestions, ask questions on why the coachee is choosing a particular action or step and how all these are improving their own actions. The relationship has to be built on trust and built on thoughts, feelings, and attitudes. The coaching session should inspire the coachee towards better results.

The coachee should meet the coach at least once a month to update on results and progress. There should be a coaching session in each phase either done individually or in groups. Typically, during the first session, the responsibility of the coach is to explain the type of engagement that will be expected, including how the coach will help in the achievement of the capstone objectives. It is imperative that there is a clear system of following up the coaching sessions on both ends, i.e. the coachee (who journals what was the session about, their feelings about the session and the expected actions) and the coach who journals the date and the title of the session.



#### VIDEO 1: COACHING AGILE TEAMS-

<https://www.youtube.com/watch?v=MNctIUuATJg&t=304s>



#### VIDEO 2: WHAT IS AGILE COACHING -

<https://www.youtube.com/watch?v=mqNf1Wl3y8s>



## VIDEO 3: EFFECTIVE COACHING CONVERSATIONS: COACHING DEMONSTRATIONS - [https://www.youtube.com/watch?v=jhRQ\\_l1Pnns](https://www.youtube.com/watch?v=jhRQ_l1Pnns)

### MASTERY EXERCISE 2.1

1. What is necessary for a successful coach-coachee relationship? *Post your answers in a reflective journal*



### Podcast 1: How to Build Psychological Safety - <https://coachingforleaders.com/podcast/404/>



### Podcast 2: Top 5 questions every coach should ask - <https://podcasts.apple.com/gb/podcast/the-top-5-questions-every-coach-should-ask/id1508311281?i=1000580818572>



### Quiz/Questions

Fill in the following coaching sheet for each session (coachee)

|                                                         |  |
|---------------------------------------------------------|--|
| Coach name:                                             |  |
| Coachee name:                                           |  |
| Coachee number:                                         |  |
| Capstone project title:                                 |  |
| Session date:                                           |  |
| What do I want from the coaching session?               |  |
| What was the coaching session about?                    |  |
| What did I discover I need to improve on? (most useful) |  |
| What are the to do actions after the coaching session?  |  |
| How did I feel after the coaching session?              |  |

|                                    |  |
|------------------------------------|--|
| When is the next coaching session? |  |
|------------------------------------|--|



## REFERENCE LIST AND FURTHER READING

1. Quistorff, B. (2017). Bill Quistorff. In B. Holmes, *Create the Ending You Want: Peer Advice on Succeeding in LDRS 614-Change Leadership*. Winona State University. Retrieved from <https://mlpp.pressbooks.pub/peeradvicehdrs614/chapter/chapter-11/>



## ONLINE DISCUSSION

Discuss after the first two sessions, how your experience of coaching has been with your coach and post it onto the discussion forum.



## TAKE HOME MESSAGE/SELF REFLECTION

How can I benefit better from each coaching session? Post on your reflective journal

### WHAT'S NEXT?

- Filling in the coaching form from each session
- Communicating capstone project outcomes



## MODULE 3: COMMUNICATING CAPSTONE PROJECT OUTCOMES

INSTRUCTIONAL HOURS: 6

### Module Overview

In this module, you will learn how to communicate project outcomes both internally and externally, types of audience and the various forms of communication.

### Learning Outcomes

At the end of this module, you will be able to



1. Examine how to scale the solution
2. Explain what the necessary ingredients are to communicate project outcomes.
3. Analyse the necessary aspects in your project to get effective buy-in through communication (maintenance, investment and support issues).
4. Plan how to communicate the capstone project outcomes to different audiences.

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

It is important to know how to communicate capstone project outcomes. Communication of capstone project outcomes will involve delivering the information, crafting the message for a target audience, and adjusting the message depending on feedback.

Crafting the message assumes the communication style is known, and the target audience has been characterized. The target audience can fall under the DISC profile (Dominant, Influence, Steadiness, Conscientious). For the dominant, it is important to stay on topic and not to make broad, over-generalizations. The messages should be brief and direct. The influencer type of audience is those who thrive in friendly and favourable environments. These like detail and the aspect of social interactions is important. They operate according to the feel of the situation and like to inspire to action. They would rather coax you to their side. The steady target group is stable and takes time to process the information. The environment created should be friendly and there is need to be patient to wait for responses. The communications should be clear and well balanced. The conscientious target audience are those who like precision. This implies there should be no room for ambiguity. They like summarized information that is logical. They like to ensure standards are followed (Morris, 2008).

Communication should have an effective communication mix. There is also need to consider whether the information being sent is internal or external. External communication can be social media; multimedia; newsletter; press release; podcasts or videocasts; opinion articles; brochures; leaflets; blogs; scientific reports; public relations endorsement including events/stunts; prototypes; simulations; interviews; surveys; panel discussions; features; PowerPoint presentations; Visual dashboards. Internal communication can be reports; face-to-face meetings; conferences and meetings.

The messages should be clear, purposeful, targeted, inspirational, relevant, and credible. The student needs to know which information they should give and what they need to get back, including whether it is bi-directional or unidirectional. Issues of inclusivity need to be considered when communicating, which implies the culture and values.



## VIDEO 1: COMMUNICATION TIPS FOR SUCCESSFUL PROJECT

MANAGEMENT- <https://www.youtube.com/shorts/0lHdhfUCk28>



## VIDEO 2: HOW TO QUICKLY CREATE A COMMUNICATIONS PLAN-

<https://www.youtube.com/watch?v=AGasRnCC1mg>



## VIDEO 3: COMMUNICATION STRATEGY THRIVES ON USING MESSAGES

WITH A PURPOSE - <https://www.youtube.com/watch?v=YIUFWkATu5M>

### MASTERY EXERCISE 3.1

What does the DISC profile mean in relation to communication? *Post the responses on discussion forum*



**Podcast 1: Creative Communication: How Our Design Choices Illustrate Our Values-** <https://www.gsb.stanford.edu/insights/creative-communication-how-design-choices-illustrate-values>



**Podcast 2: Simplify! How to Communicate Complex Ideas Simply and Effectively -** <https://www.gsb.stanford.edu/insights/simplify-how-communicate-complex-ideas-simply-effectively>



### Quiz/Questions

1. FILL IN THIS DYNAMIC COMMUNICATION TEMPLATE FORM (PLANNING AND IMPLEMENTING)

| Aspect                                                            | Information                                                                                                                                                                                                           |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aim of communication (why of communication-purpose)               |                                                                                                                                                                                                                       |
| How does the communication link with the problem/need identified? |                                                                                                                                                                                                                       |
| Who is the target audience?                                       | Is it the sponsor or stakeholder? Yes No<br>Is it the community? Yes No<br>Is this the team working on the capstone project? Yes No<br>Is it the project coach? Yes No<br>Is it the project assessor/examiner? Yes No |
| What is the nature of audience in the DISC profile?               |                                                                                                                                                                                                                       |
| How aware and knowledgeable is the target audience?               | Low knowledge..... average knowledge.... very knowledgeable.                                                                                                                                                          |
| What channels of communication are needed?                        | Emails Yes No<br>PowerPoint Yes No                                                                                                                                                                                    |

|                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                         | Newsletters Yes No<br>Visual Dashboards Yes No<br>Intranet/Website Yes No<br>Simulations Yes No<br>Prototypes Yes No<br>Design flows Yes No<br>Concept diagrams Yes No<br>Meetings Yes No<br>Reports Yes No<br>Briefs Yes No<br>Blogs Yes No<br>Social media posts Yes No |
| How do they want the information? (format)                                                                                                                                                              | Detailed Yes No<br>Summarized Yes No<br>Logical Yes No<br>With stories and emotions Yes No<br>Visualized Yes No<br>Inclusive to the hearing and visual impaired Yes No                                                                                                    |
| When do they want the information (timescale)                                                                                                                                                           | Hourly<br>Daily<br>Weekly<br>Monthly<br>Yearly<br>Others                                                                                                                                                                                                                  |
| Who should communicate the information?<br>Who do the audience trust?                                                                                                                                   |                                                                                                                                                                                                                                                                           |
| Who is the owner of the communication?                                                                                                                                                                  |                                                                                                                                                                                                                                                                           |
| How much time do we have to communicate?                                                                                                                                                                |                                                                                                                                                                                                                                                                           |
| How much money do we have to communicate?                                                                                                                                                               |                                                                                                                                                                                                                                                                           |
| What are the barriers and risks when communicating?                                                                                                                                                     |                                                                                                                                                                                                                                                                           |
| How can we overcome the barriers of communication?                                                                                                                                                      |                                                                                                                                                                                                                                                                           |
| How will we know the communication has been effective? (change of opinions, attitudes, feelings-what do we want them to feel, knowledge-what they should know, behaviours-what do you want them to do). |                                                                                                                                                                                                                                                                           |



## REFERENCE LIST AND FURTHER READING

Mike, J. (2021). Communication management and steps involved in project communication management. *Journal of Organizational Culture Communications and Conflict*, 25(S4), 1-2-Link- <https://www.abacademies.org/articles/communication-management-and-steps-involved-in-project-communication-management-13390.html>

Bruce, C., Maclean, B., Loughlean, C., Capell, D., Hobson, D., Phipps, D., . . . De Brabandere, S. (2020). *Knowledge Management and Communication*. Ontario University Research Collaboration. Retrieved from <https://ecampusontario.pressbooks.pub/knowledgemanagement/chapter/communication-tools-and-strategies-communications-resources-and-templates/>



## TAKE HOME MESSAGE/SELF REFLECTION

1. Which values were important in my communication and how effectively have I managed to transmit these values in my capstone project? Post these to a reflective journal.

## WHAT'S NEXT?

- Create a communication plan for your capstone project
- Capstone project planning



## MODULE 4: PLANNING- PHASE 1

INSTRUCTIONAL HOURS: 8

### Module Overview

In this module, you will be introduced into the first phase of the capstone project, the learning phase. It will help you rationalize the necessary first ingredients to make your capstone project successful. We shall also be introduced into the agile methodology which will be one of the main methodologies applied in developing your capstone project solution.

### Learning Outcomes

At the end of this module, you will be able to

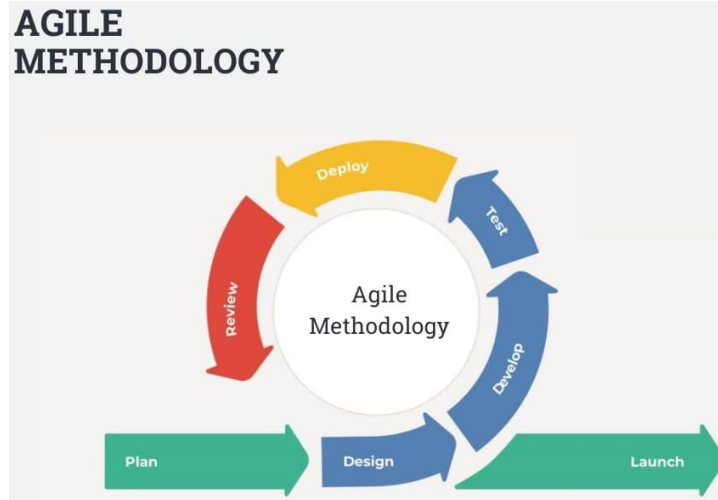


1. Define the learning context
2. Analyse the target group of the capstone project and learning needs
3. Analyse the learning problems and create concept maps and scenarios including context needs
4. Differentiate between user and financier in a solution

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Description: It is essential that during the delivery of the theoretical modules, students think through individually, and in teams, the kind of project they will deliver. The presentation of the topic should be done at least six or seven weeks into the first year. This will be aligned to the interest and specialization the participant is engaged in. When the module is presented, it will be critical to show how the Agile mindset has been integrated into the project. The agile framework is an action framework that involves the following phases: planning; designing; development; testing; deploying and reviewing. The project planned needs to have a social, education, civic or environmental impact.



The first phase of the capstone project, the presentation, will include issues of planning and designing. In planning, it will be critical to capture in a dynamic form the following: i) the learning context; defining the learning needs (which implies understanding who the learner is, the demographic issues and the appropriate methods that these learners acquire information); the student should clearly outline who is the target group and possible scale or size of the need, this may include other beneficiaries and stakeholders. The need should be drawn from a social issue. The participant should know who should provide critical feedback, taking note that the user may not be necessarily the financier; the learning problem (need) should be clearly identified. During the first phase, the participant needs to apply appropriate visual techniques and ways to summarize the problem into what (is the learning need), who (are affected) and why it is important to address the learning need. This can be done in a group, together with peers and coaches. The difference made in society can be a social need with a method that incorporates society in how to address it.



### VIDEO 1: USING PAIN POINTS TO DEVELOP GOOD BUSINESS

IDEAS- [https://www.youtube.com/watch?v=FblG4kbjW\\_Q](https://www.youtube.com/watch?v=FblG4kbjW_Q)



### VIDEO 2: STUDENTS USING TECHNOLOGY TO SOLVE REAL-WORLD

PROBLEMS- <https://www.youtube.com/watch?v=D0aqVYpebGg>



### VIDEO 3: PRODUCT/MARKET FIT INTERVIEW WENDY TSU:

<https://www.youtube.com/watch?v=NVZTEsiOvFU>



### VIDEO 4: STUDENTS USING TECHNOLOGY TO SOLVE PROBLEMS:

<https://www.youtube.com/watch?v=mNbQikjF30Q>



### Podcast 1: Starting from the why?

<https://ecomer.stanford.edu/podcasts/cody-coleman-coactive-ai-starting-from-why/>



### Podcast 2: The Benefits of User Research:

[https://josephsuarez.com/podcast/EP034\\_RobertaD.mp3](https://josephsuarez.com/podcast/EP034_RobertaD.mp3)

## MASTERY EXERCISE 4.1

1. Explain clearly the why of your capstone project and upload your answers onto the discussion forum.
2. Explain the important phases of the Agile methodology to be applied in your capstone project and post the answers onto the discussion forum.



## Quiz/Questions

FILL OUT THIS DYNAMIC FORM (provided as a link on the online platform and to be shared with your coach and peers)

|                         |  |
|-------------------------|--|
| Participant's name      |  |
| Participants number     |  |
| Participants discipline |  |

|                                                                                                                                                                       |                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| When is the capstone project expected to start and to end?                                                                                                            |                                                                               |
| Proposed topic that has social significance                                                                                                                           |                                                                               |
|                                                                                                                                                                       |                                                                               |
| Is it an individual capstone project or will it be done in groups? If in groups, indicate the names of the other participants and their roles                         | Yes / No<br><br>Other participants involved in the project:<br>1.<br>2.<br>3. |
| What are the demographic issues of people affected by the learning problem (need)? (age, number of people affected, gender, socio-economic status (low/middle/upper)) |                                                                               |
| Why is it important to address the learning problem? (which gap exists after adequate primary and secondary research)                                                 |                                                                               |
| What is the social challenge being addressed?                                                                                                                         |                                                                               |
| What is the value you want to bring to society and beneficiaries.                                                                                                     |                                                                               |
| Is the user (client affecting by the learning need the financier?)- explain                                                                                           | Yes / No                                                                      |
| Which visualization techniques have I used to summarize client needs? (concept maps/diagrams/videos and story boarding)                                               |                                                                               |
| How will I know that I have succeeded in resolving the problem?                                                                                                       |                                                                               |
|                                                                                                                                                                       |                                                                               |

|                                                           |
|-----------------------------------------------------------|
|                                                           |
| Who are the beneficiaries and stakeholders of the project |
| Beneficiaries:<br><br>Stakeholders:                       |

Complete the first section of the capstone project proposal in a narrative form that highlights the following: learning context; learning needs; learning problem; purpose statement for the capstone project; outline of the capstone project following the agile methodology. Upload this onto the discussion forum for your peers and coach to reflect on.



## REFERENCE LIST AND FURTHER READING

1. James, N., Humez, A. & Laufenberg, P. Using Technology to Structure and Scaffold Real World Experiential Learning in Distance Education. *TechTrends* **64**, 636–645 (2020).  
<https://doi.org/10.1007/s11528-020-00515-2>
2. Emmanuel Chibuikwe Daraojimba, Chinedu Nnamdi Nwasike, Abimbola Oluwatoyin Adegbite, Chinedu Alex Ezeigweneme, & Joachim Osheyor Gidiagba. (2024). Comprehensive Review of Agile Methodologies in Project Management. *Computer Science & IT Research Journal*, 5(1), 190-218. <https://doi.org/10.51594/csitrj.v5i1.717>



## ONLINE DISCUSSION

Critically engage with your coach and peers using the content presented in your forms. *Post your reflections on your reflective journal.*

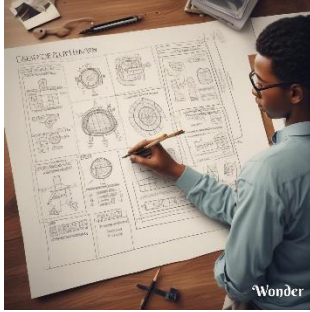


## TAKE HOME MESSAGE/SELF REFLECTION

What were the aspects that you have changed from the initial form after the critical engagement.  
(Post your answers in your personal reflective journal)

## WHAT'S NEXT?

- Filling in capstone project form
- Writing the first narrative section of the capstone project proposal (refer to project proposal rubric)
- Module 3: Capstone project planning and design



## MODULE 5: PLANNING- DESIGN

### THINKING

INSTRUCTIONAL HOURS: 6

#### Module Overview

In this module, you will discover how the agile methodology presented in the previous module aligns with the design thinking, especially in the first phases. It introduces a participant to the history of design thinking and the process of design thinking.

#### Learning Outcomes

At the end of this module, you will be able to



1. Explain the history of design thinking
2. Analyse how design thinking can be applied to your capstone project
3. Link design thinking to agile methodology
4. Design of solutions through design thinking with an emphasis on inclusivity

#### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Description: Design thinking is about the creation of, as well as adaptive use of a body of behaviours and values. It involves five major stages: defining the problem; need finding and benchmarking; brainstorming of ideas; building of prototypes; testing of the prototype and learning (Plattner , Meinel, & Leifer, 2011).

It is a way of finding human needs and creating innovative solutions using the tools and mindsets of design practitioners.

### History of design thinking

There was need to revise the strategies used in the 20<sup>th</sup> Century to overcome the wicked problems in a world that is volatile, uncertain, complex, and ambiguous (VUCA). There was shift in the big organizations to create experiences for customers. Around 2003/2004 “Hasso Plattner, one of the founders of the software company SAP, read about David Kelley’s d.school, which is connected to Stanford University in Palo Alto. David used a process that he called design thinking to let students collaboratively work on problems that are not easily analysed. Similar approaches and methods had been taught successfully around the world before, but usually to students who were aspiring to become designers themselves (Gekeler, 2019).”



#### **VIDEO 1: WHAT IS DESIGN THINKING? AN OVERVIEW-**

<https://www.youtube.com/watch?v=gHGN6hs2gZY>



#### **VIDEO 2: LEAN STARTUP VS DESIGN THINKING: WHICH INNOVATION METHOD FITS YOUR PROJECT -**

<https://www.youtube.com/watch?v=-QdN6ZgLBn0>



#### **Podcast 1: Integrating values into design -**

<https://ecorner.stanford.edu/videos/designing-from-values-entire-talk/>



#### **Podcast 2: The Classroom of the future by Kavitta Ghai-**

<https://www.thepitch.show/127-nectir-the-classroom-of-the-future/>

## MASTERY EXERCISE 5.1

1. What are the important phases of design thinking? (post your answers onto the discussion forum)



### Quiz/Questions

1. Define who are the social users for the learning solution that you think needs to be implemented.
2. Explain to what extent the current learning solutions available meets the social needs of learners.
3. Explain to what extent the current learning solutions do not meet the social needs of learners (pain points).
4. How does the learner usually obtain information?
5. Visualize the possible learning solution using the five-step process (create a story board)
6. Why does your learning solution make sense?

Post your answers onto the discussion forum and the design thought storyboard.



## REFERENCE LIST AND FURTHER READING

1. Eric. (2024). *Introducing the frameworks- Part 1 of Design Thinking, Lean Startup, Agile and More: How to Combine Them to get an Innovation Process end-to-end?* Retrieved from Wind4Change: <https://wind4change.com/innovation-process-framework-methodology-what/>
2. Peach, K., Berditchevskaia, A. & Bass, T. (2020). *Collective Intelligence Design Playbook*. (beta). London: Nesta. Link: [https://media.nesta.org.uk/documents/Nesta\\_Playbook\\_001\\_Web.pdf](https://media.nesta.org.uk/documents/Nesta_Playbook_001_Web.pdf) (Pages 7-19)
3. Lipmanowicz, H., & McCandless, K. (2023). *Design Storyboards- Basic*. Retrieved from Liberating Structures: <https://www.liberatingstructures.com/21-design-storyboards/>
4. Salmon, G. (2023). *Educators as Designers of the Future*. Retrieved from Educational Alchemists: <https://www.educationalchemists.com/blog/educators-as-designers-of-the-future>



## TAKE HOME MESSAGE/SELF REFLECTION

How will design thinking help you in your project work? (post this in the e-portfolio)

## WHAT'S NEXT?

- Posting your design thinking story board onto the discussion forum
- Explanation of usefulness of design thinking on e-portfolio
- Learner centred design



## MODULE 6: PLANNING-LEARNER CENTRED DESIGN

INSTRUCTIONAL HOURS: 6

### Module Overview

In this module, you will learn how to place the learner at the core of the whole design process and the fundamental principles of learner centred design.

### Learning Outcomes

At the end of this module, you will be able to



1. Explain the concept of learner centred design.
2. Design of learner capacities
3. Analyse the principles of learner centred design and its connection to instructional design
4. Apply learner centred design in the capstone project solution

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Learner Centred Design implies putting the learners at the centre and enabling them to take charge of their own learning experiences; the knowledge they create and the value therefrom. It is creating learning experiences around the needs of students. It implies a need to know what the aspirations and interests of learners are. It follows several principles: situating learning in real life activities; prompt learners to be metacognitive, i.e. to think about their own thinking, supporting learner experiences, allow learners to evaluate their

own thinking and assumptions, allowing learners to explore multiple perspectives and to construct their own learning plans.

Learner progress is therefore based on learning rather than time, the tasks given are as authentic as possible, task performance is personalized and adjusting the complexity of tasks according to needs, and which at times can incorporate scaffolding and coaching.



#### **VIDEO 1: LEARNER CENTRED DESIGN THEORY-**

<https://www.youtube.com/watch?v=rDNEqFNZpj8>



#### **VIDEO 2: LEARNER CENTRED MODULE DESIGN:**

<https://www.youtube.com/watch?v=CvspNxsUxLo>



#### **VIDEO 3: UNIVERSAL DESIGN FOR LEARNING-**

[https://www.youtube.com/watch?v=hwPuJ4l\\_ukE](https://www.youtube.com/watch?v=hwPuJ4l_ukE)



#### **VIDEO 4: UNIVERSAL DESIGN FOR LEARNING (PART 2)- GUIDELINES**

<https://www.youtube.com/watch?v=PNaafVoi2Ic>

### **MASTERY EXERCISE 6.1**

1. How is learner centred design applicable in your project?



#### **Podcast 1: Bringing Joy to the Craft of Instructional Design-**

<https://open.spotify.com/show/3zFA2xigr1qCHfA8SfkLdR>



## Podcast 2: Survival and Success Strategies for New Learning Leaders with Laurel Schulert -

<https://tldchat.zencast.website/episodes/survival-and-success-strategies-for-new-learning-leaders-with-laurel-schulert>



### Quiz/Questions

1. What are some of the learning centred design principles you will employ in your intended solution in society and how will they be applied?
2. What learners centred design approaches will you apply to meet the learning needs identified?

Post your answers onto a discussion forum.



### REFERENCE LIST AND FURTHER READING

1. Rajeh, S. H. (2020). Learner-Centered Design Theory. In J. Egbert, & M. Roe, *Theoretical Models for Teaching and Research*. Washington State University. Retrieved from <https://opentext.wsu.edu/theoreticalmodelsforteachingandresearch/chapter/learner-centered-design-theory/>
2. High Quality Online Courses: 1.8 Summary: Learner-centred design and the Nine Events of Instruction. <https://ecampusontario.pressbooks.pub/hqoc/chapter/summary-learner-centred-design-and-the-nine-events-of-instruction/>



### ONLINE DISCUSSION

Discuss in groups how you will employ learner design and post your reflections on a reflective journal.

### WHAT'S NEXT?

- Posting your learning design onto the discussion forum

- Write personal reflections on learning design
- Examining literature review in a capstone project



## MODULE 7: LITERATURE REVIEW

INSTRUCTIONAL HOURS: 8

### Module Overview

In this module, you will be introduced into the concept of literature review and how to apply it in the capstone project. The student will be introduced into a systematic way of conducting literature review always with the reference point being the societal solution.

### Learning Outcomes

At the end of this module, you will be able to



1. Introduce a participant to the concept of literature review
2. Analyse different types of literature review
3. Apply literature review in Identification and rationalization of appropriate technologies (access and use cases)
4. Examine different types of literature review

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Literature review is critical in the Capstone Project. It will inform you on the frameworks/models to use, possible hypotheses, methods of analysing and collecting data and what the most recent research work is on. It is a rich source for problem generation. Literature review is locating, obtaining, reading, and evaluating the research literature in your area of interest (Bordens & Abbott, 2011). An exhaustive literature review ensures that the work a student does is original,

and it is not a duplication of efforts. It informs a person of areas of research that exists, what has been done, existing gaps and needs.

There are distinct kinds of literature review. Literature review can be for a journal article, a book chapter, a thesis or dissertation, a critical review of text or a critical synopsis of texts. Each of these forms of literature review are different. Literature review for journal articles tend to be shorter, an abridged version of what is found in a thesis or dissertation. Literature review of a book chapter which can be a critical review of texts does not only examine the most current available literature, but also tries to investigate the philosophical, methodological & analytical assumptions and queries all these works not only to provide useful insights but to show areas where these can be improved. Literature review in a journal article is in a section called related literature after the introductory section. “For qualitative research articles, the literature review may be found in a separate section, included in the introduction, or threaded throughout the study. In theoretically oriented studies, such as ethnographies or critical ethnographies, the literature on a cultural concept or a critical theory is introduced early in the report or proposal as an orienting framework. In grounded theory, case studies, and phenomenological studies, literature is less often used to set the stage for the study. (Creswell, 2009)”. The literature review can include setting a context of the problem, providing a theoretical overview of literature, providing the empirical works that have been done on the topic and thereafter an analysis of the gaps that exist both from the theoretical and empirical analysis. There is a section in quantitative literature review which is the conceptual section. The conceptual section provides the model that is used to phrase the research questions and hypotheses and typically is derived from an existing research work. This model is what will be assessed.

Some authors insist that when presenting literature review, it needs to follow a funnel shape. First is global literature, then regional and lastly local literature. The literature review therefore begins with works that are furthest from the writers/researcher’s context before delving into one’s own context. The table below can assist in prioritizing and identifying possible literature to guide the capstone project,

| Topic | Problem | Author | Year | Context | Variables /Constructs | Framework used | Methodology | Analysis | Outcomes | Gaps/ need |
|-------|---------|--------|------|---------|-----------------------|----------------|-------------|----------|----------|------------|
|       |         |        |      |         |                       |                |             |          |          |            |



## VIDEO 1: WHAT IS A LITERATURE REVIEW -

<https://www.youtube.com/watch?v=uH10Mqd42HQ>



## VIDEO 2: PURPOSE OF LITERATURE REVIEW -

<https://www.youtube.com/watch?v=1nqzcfw1wDE>

## VIDEO 3: CONDUCTING A SYSTEMATIC LITERATURE REVIEW:

<https://www.youtube.com/watch?v=WUErib-fXV0>



## VIDEO 4: WRITE A MASTERPIECE SYSTEMATIC LITERATURE REVIEW WITH

AI: <https://www.youtube.com/watch?v=A3gaFdgLBGs>



## Podcast 1: Make Number Count: How to Translate Data for Your Audience - [Make Numbers Count: How to Translate Data for Your Audience](#)



### Quiz/Questions

1. What type of literature review will be relevant for your capstone project?
2. Develop the literature review rubric and post it onto the platform.
3. Produce a narrative of the possible solutions and ways of addressing the learning needs based on different contexts.
4. Produce a narrative of how the learning problem may be resolved through a specific learning theory. Write a continuous narrative of literature review in continuous prose using the table beginning from the global to the local context that is relevant to your needs. This should explain what a problem in a specific context was, how they addressed it and what was lacking in terms of the resolution to the problem and which links to the need of your capstone project. (combine 3 and 4 above to the narrative produced in planning)



## REFERENCE LIST AND FURTHER READING

1. Atkinson, C. F. (2023). Cheap, quick, and rigorous: Artificial intelligence and the systematic literature review. *Social Science Computer Review*, 42(2), 376-393. <https://doi.org/10.1177/08944393231196281>
2. Pejic Bach, M., & Cerpa, N. (2019). Editorial: Planning, conducting and communicating systematic literature reviews. *Journal of theoretical and applied electronic commerce research*, 14(3), 190-192. <https://doi.org/10.4067/s0718-18762019000300101>

3.



## TAKE HOME MESSAGE/SELF REFLECTION

1. Try developing a literature review map for your capstone project using the table above.

### WHAT'S NEXT?

- Creating a literature review map and posting this onto the discussion forum
- Developing the literature review section of the proposal (Refer to the capstone project part 2-first three elements) and post it to the discussion forum
- Analysis and design of learning solution



## MODULE 8: ANALYSIS AND DESIGN

INSTRUCTIONAL HOURS: 6

### Module Overview

In this module, you will learn about ADDIE design principles and its application to learning situations relevant for your capstone project.

### Learning Outcomes

At the end of this module, you will be able to



1. Examine the nature of the learning environment for the intended solution (instructional design).
2. Explore the nature of the learning environment and skills, structural/infrastructural needs.
3. Apply (user) design and analysis elements to the solution aligned to the learning problem.
4. Examine the inclusivity and ethical issues for the solutions proposed.

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Analysis and Design is best explained using the ADDIE framework, i.e. Analyse, Design, Develop, Implement and Evaluate. The Analysis phase refers to establishing what the learners' goals are after identifying learners' needs, what knowledge, attitudes, values, and skills will be transmitted, the amount which the learner can consume in relation to the solution and resources are required and available to meet the learning needs. The learning needs may include human computer interaction and gamification.

Design is deciding how the content will be consumed, including sequencing and how it will be deployed. It includes identifying what can be consumed by the learner and breaking down this consumption into achievable objects. This may include how to assess whether

learning has occurred. It is important that the information packaged is inclusive as possible. There is need to think through which media format can be consumed and capacities for consumption, i.e. video, text, or audio.



### VIDEO 1: LEARNING DESIGN VS INSTRUCTIONAL DESIGN-

[https://www.youtube.com/watch?v=\\_xCqMw\\_6\\_2k](https://www.youtube.com/watch?v=_xCqMw_6_2k)



### VIDEO 2: THE ADDIE MODEL OF INSTRUCTIONAL DESIGN: -

<https://www.youtube.com/watch?v=JxShaB4R0d8>



### VIDEO 3: ASSURE INSTRUCTIONAL DESIGN MODEL: -

<https://www.youtube.com/watch?v=KxDzR0lw-BM>



### Podcast: 1. Instructional Design Skills-

<https://open.spotify.com/episode/6H8YwY5vvIYV8UYFp1ApXk?si=ANfC3xVYSOOuW8b4FBCXw>



### Podcast: 2. ADDIE, Instructional Design Internships, AI, Recommendations, Designing Learning Environments -

<https://drlukehobson.com/podcast-episodes/ep-73-william-cronje>

## MASTERY EXERCISE 8.1

1. Explain how the ADDIE framework applies to the challenge on the online forum.



## Quiz/Questions

1. What are the learners' goals which your societal solution will respond to?
2. What are the attitudes, knowledge and social value gaps will it address?
3. Who will be most served or underserved (left out)?
4. Which mechanisms can be adopted for inclusivity?

5. What are the ethical issues?
6. What are the user interface and experience issues to consider?
7. What is the form of learning solution? (web-based or standalone)
8. What are the technical requirements?

*Post the responses into your e-portfolio*

*Write a narrative of the design of solution that includes the appropriate design and instructional framework.*



## REFERENCE LIST AND FURTHER READING

1. 3 ADDIE: A Framework for Exploring ID. (2023). In H. Hambrock, *Everyday Instructional Design*. Concordia University Chicago. Retrieved from <https://pressbooks.pub/everydayid/chapter/addie-a-framework-for-exploring-id/>
2. 4 Other ISD Models. (2023). In H. Hambrock, *Everyday Instructional Design*. Concordia University Chicago. Retrieved from <https://pressbooks.pub/everydayid/chapter/other-isd-models/>
3. Chang, L., & Mohamad Jafre Bin Zainol Abidin. (2024). Instructional Design of Classroom Instructional Skills Based on the ADDIE Model. *Technium Social Sciences Journal*, 55(1), 167–178. <https://doi.org/10.47577/tssj.v55i1.10676>
4. Hardwick, J., Whittington-Walsh, F., Bezanson, K., Miller, A., & Sawatzky, E. (2022). 5. Designing for Inclusion. In M. Bali, K. Bezanson, F. M. Burtis, C. Denial, R.-J. Garcia, L. Gorkov, . . . A. D. King, *Designing for Care*. Retrieved from <https://pressbooks.pub/designingforcare/chapter/designing-for-inclusion/>
5. Neema-Abooki, P., & Kitawi, A. (2014). Impact of E-learning strategy on students' academic performance at Strathmore University, Kenya. *Makerere Journal of Higher Education*, 6(1), 99. <https://doi.org/10.4314/majohe.v6i1.6>



## ONLINE DISCUSSION

Discuss the learner design issues in your project with peers and post this onto the social forum.

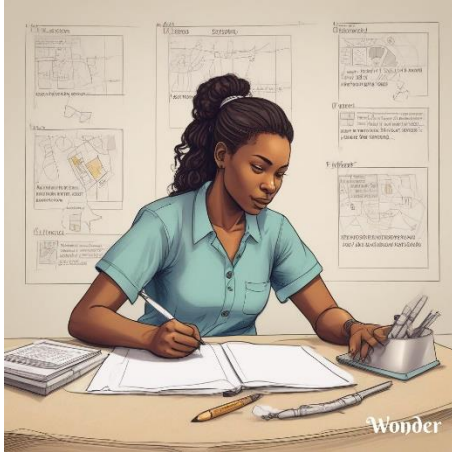


## TAKE HOME MESSAGE/SELF REFLECTION

What are the new issues you have discovered in your learning design that need to be incorporated into future steps? *Post the answers on the online forum*

## WHAT'S NEXT?

- Posting your analysis and design aspects onto the discussion forum and receiving feedback
- Write reflections of feedback on the reflective journal.
- Development and prototyping of learner solutions.



## MODULE 9: DEVELOPMENT (PROTOTYPING)

INSTRUCTIONAL HOURS: 12

### Module Overview

In this module, you will learn how to examine which prototypes work and why they work and evaluating different methods for deploying solutions. We shall examine the ingredients of low, middle and high-fidelity prototypes.

### Learning Outcomes

At the end of this module, you will be able to



1. Explain different types of prototypes
2. Examine which successful prototype approaches to apply in the capstone project
3. Evaluate methods of deploying solutions through various integration theories already learned.
4. Identify the best method to deploy prototypes (solution-MVP1).

### Learning Activities/Task List

# INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

Prototyping is creating viable solutions for the learning needs. It requires creating of iterative models. Prototypes can be developed through three main approaches: exploratory; experimental; evolutionary development. Exploratory prototypes are used to find out details before or during development and can be rapid throwaway or spiral models (determining objectives, alternatives and constraints that resolve risks using prototypes, simulations). Experimental approach prototypes are built so that the feasibility of proposed solutions to problems can be examined by means of experimental use. Evolutionary prototyping approach results in the gradual development of systems and allows for, or adapts to, changes that take place within an organisation because of either the operationalisation of the system, or externally induced changes to the organization (Carr & Verner, 2024).

Prototypes can be low fidelity prototypes, medium fidelity, and high-fidelity prototypes. Low fidelity prototypes are meant to be rough and is a quick build to attain a proof of concept and facilitate communication with users for example storyboarding. It can be done in analogue forms. This can include a prototyping vision canvas which may include a vision statement, target group, needs, the product and benefits. Medium fidelity prototypes are normally done digitally and simulate some but not all features and can evaluate subtle design issues. A high-fidelity prototype has increasing completeness and high degree of functionality. These help the developers and users evaluate whether their learning needs have been addressed adequately and what still needs to be done to match the client needs (product-market fit). Prototyping helps in the identification of problems, refining ideas and confirming what is developed matches user needs. A prototype enables the developer to minimize costly design errors in the final product as the viable product, which does not necessarily have all the requirements, is gradually refined according to user expectations. They can be used to assess for functionality, ergonomics, and level of satisfaction. The first prototype that meets a minimum of users/learners' needs is termed as the minimum viable product. For social innovators, the prototype needs to be relevant, credible, appropriate, of right quality and timely. At times, rapid prototyping can be used which combines the design, development, and evaluation phases. It is important, depending on the kind of solution developed, to develop the product and business model. This may include simulating and knowing the business models of competing or rival products/solutions-minimum viable ecosystem. This may be an analysis of whether the learning solution exists within the red ocean strategy (existing market and intense competition), blue ocean (undisputed markets with low level of competition) or black ocean (ecosystem driven markets where it is impossible to compete).

Methods of deploying solutions and integrating Information Communication Technologies are Theory of Reasoned Action; Technology Acceptance Model (TAM); Technology Organisation Environment Framework; Theory of Planned Behaviour; Unified Theory of Acceptance and Use of Technology; Technological Pedagogical Content Knowledge

Theory (TPACK). In deploying solutions considerations should be made on for who, why and how do we measure that we have achieved learning aims.



#### VIDEO 1: WHAT IS PROTOTYPING, NESTA-

[https://www.youtube.com/watch?v=\\_1bOaNSy5XY](https://www.youtube.com/watch?v=_1bOaNSy5XY)



#### VIDEO 2: USER EXPERIENCE (UX) DESIGN THINKING: PROTOTYPE-

<https://www.youtube.com/watch?v=TNjg21F4XCI>



#### VIDEO 3: RAPID PROTOTYPING IN INSTRUCTIONAL DESIGN -

<https://www.youtube.com/watch?v=7IFTd9LpbQ8>



#### VIDEO 4: STORY BOARDING VS. RAPID PROTOTYPING FOR ELEARNING -

<https://www.youtube.com/watch?v=qIB1T9NSstI>



#### VIDEO 5: HOW TO TURN YOUR IDEA TO REALITY -

<https://www.youtube.com/watch?v=MRJq6br1TJE>

### MASTERY EXERCISE 9.1

Explain what prototypes are.



#### Podcast 1: This is a prototype by Daniela Marzavan-

<https://podcasts.apple.com/gb/podcast/s2-e7-daniela-marzavan/id1699287446?i=1000664427305>



## Podcast 2 Build it Right by Alberto Savoia -

<https://ecorner.stanford.edu/podcasts/alberto-savoia-google-build-the-right-it/>



### Quiz/Questions

1. What type of prototypes are needed in building the solution to the social problem?
2. When and from whom will I get feedback from the prototypes?
3. What social and ethical issues need to be considered in evaluating the prototypes (feedback)?
4. What are the marketing and advocacy issues in deploying the solution? (investment and finance)

*Post the answers on the e-portfolio*

Create the prototype, its story board and a narrative of the development methods, the sprints done and how feedback was given and post this to the discussion forum.



### REFERENCE LIST AND FURTHER READING

1. Mejeh, M., & Sarbach, L. (2024). Co-design: From understanding to Prototyping an adaptive learning technology to enhance self-regulated learning. *Technology, Knowledge and Learning*. <https://doi.org/10.1007/s10758-024-09788-5>
2. Wenngren, J., & Rizk, A. (2024). undefined. *Administrative Sciences*, 14(7), 142. <https://doi.org/10.3390/admsci14070142>



### ONLINE DISCUSSION

Discuss in your groups the different prototypes you have developed. (Post your comments on the discussion forum)



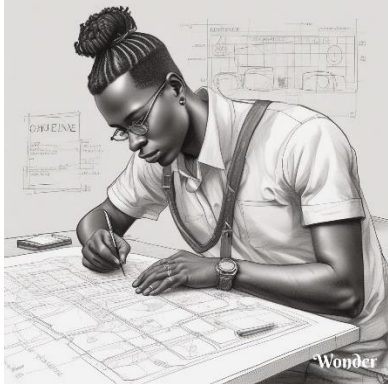
### TAKE HOME MESSAGE/SELF REFLECTION

1. How will I coordinate and manage prototype evaluation?
2. How will I confirm that I have reached the final prototype?

*Post these reflections into your journal*

## WHAT'S NEXT?

- Complete writing the last sections of literature review (designing of prototype and inclusion issues)
- Create the development section of the capstone project (refer to Methodology section, section 3- Development)
- Write reflections of feedback on the reflective journal.
- Testing and evaluation of solutions



## MODULE 10: TESTING AND EVALUATING

INSTRUCTIONAL HOURS: 18

### Module Overview

In this module, you will learn how to test and evaluate your capstone project prototypes towards a final Most Viable Product. We shall go through the parameters or yardsticks necessary in measuring the success of prototypes.

### Learning Outcomes

At the end of this module, you will be able to



1. Analyse the yardsticks, measurements to evaluate success of prototypes
2. Examine the number of sprints needed to validate the solution
3. Testing of solutions to meet the learner needs identified.
4. Implementation of final solutions (client feedback)

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

At this stage, it is important for the participant/student to decide which kind of testing that will be required and the number of iterations. The suitability of a solution can be done in an iterative process termed as sprints. The sprints can include product backlogs that serve as input to the sprint. The backlogs are from the development phase and are prioritized deliverables pegged on stakeholders' feedback. The product backlog can be in analogue forms, like sticky notes, or digital format. A sprint is a brief time to produce a specific deliverable and reflection thereafter. Each short periods comprise of empathizing with the

user, connecting to phase 1, ideating, prototyping, and testing. It is important that before the next sprint, questions are raised on social acceptability and resource efficiency of what has been produced. This implies evaluating what went well and what can be improved (Lewrick, Link, & Leifer, 2018). The finished prototype is crucial to assess whether most of the learning needs (problems) have been met with the solution. The final prototype should be easy to use. The following are parameters that can be used in testing and evaluating prototypes: prototype quality (functionality of the prototype and whether it has few or significant limitations); impact of the prototype (provides a new solution or improves existing processes greatly); validation of the prototype by the actual users (whether there is evidence of engagement between the end users of the prototype and developers); sustainability (if the prototype is something that enables savings and/or can generate future revenue); cohesion (whether each team member, if the project is done within a group have effectively played their roles); time estimate before the first MVP (feasibility to achieve this within the expected remaining timelines and modifications that need to be done to ensure MVP is met). In the case of scaling a product (learning solution), it may be important to identify the scalable processes, teams, structures, and platforms, and getting a buy in from all internal and external stakeholders.

### **MASTERY EXERCISE 8.1**

How did you know that you have or will arrive to your first MVP? (post in a forum)



#### **VIDEO 1: SAAS PRODUCT VALIDATION CASE STUDY: TRANSISTOR.FM:**

<https://www.youtube.com/watch?v=dNDgRcJYAEg>



#### **VIDEO 2: VALIDATING YOUR AI SOLUTION:**

<https://www.youtube.com/watch?v=VddFfekuxrA>



#### **VIDEO 3: VALIDATION OF ICT PRODUCTS IN SCHOOLS-**

<https://www.youtube.com/watch?v=5WgpveSi3NA>



#### **VIDEO 4: TESTING PROTOTYPES IN DESIGN THINKING -**

<https://www.youtube.com/watch?v=1ZvPhQt9wKE>



## VIDEO 5: EVALUATING LEARNING WITH PRE & POST-TRAINING

TESTS - <https://www.youtube.com/watch?v=ArpJtBHj2Qg>



## Podcast: 1. How to solve problems better and faster-

<https://hbr.org/podcast/2023/10/how-to-solve-tough-problems-better-and-faster>



## Podcast: 2. How to create accessible learning content

**supporting DEI with Sussi Miller** -<https://instructional-designers-in-offices-drinking-coffee.simplecast.com/episodes/how-to-create-accessible-learning-content-supporting-dei-with-susi-miller-lzmf-qys>



## Quiz/Questions

Fill in this dynamic form

|                                                      |  |
|------------------------------------------------------|--|
| Participant's (students) name                        |  |
| Participant's (students) number                      |  |
| Date                                                 |  |
| Students' area of specialization for learning design |  |
| What is the project title?                           |  |
| What social learning need does the project serve?    |  |
| What are the parameters for sprints backlogs?        |  |

|                                                                              |                                                                               |  |
|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--|
| What are the criteria for the low fidelity prototype?                        |                                                                               |  |
| What are the criteria for the medium fidelity prototype?                     |                                                                               |  |
| What are the criteria for the high-fidelity prototype?                       |                                                                               |  |
| Which stakeholders are necessary to provide feedback for various prototypes? |                                                                               |  |
|                                                                              |                                                                               |  |
| What evidence is needed for prototype sprints?                               | 1.<br>2.                                                                      |  |
| What are the different iterations and dates?<br><br>A.<br>B.<br>C.<br>D.     | When is final prototype expected to be developed?<br><br>A.<br>B.<br>C.<br>D. |  |
| What outputs have been achieved?                                             |                                                                               |  |
| A.<br>B.<br>C.<br>D.                                                         |                                                                               |  |
| What are the remaining outputs and timelines?                                |                                                                               |  |
| A.<br>B.<br>C.<br>D.<br>E.<br>F.                                             |                                                                               |  |



## REFERENCE LIST AND FURTHER READING

1. 3.1 – What is a Minimal Viable Product (MVP)? (2022). In C. Loughlean, & K. Zavitz, Brilliant Online: Introduction to Entrepreneurial Changemaking. Brilliant Catalyst, Ontario Tech University. Retrieved from <https://ecampusontario.pressbooks.pub/brillianteddi/chapter/3-1-what-is-a-minimal-viable-product-mvp/>
2. 3.2 Launching a Beta Product (2022). In C. Loughlean, & K. Zavitz, Brilliant Online: Introduction to Entrepreneurial Changemaking. Brilliant Catalyst, Ontario Tech University. Retrieved from <https://ecampusontario.pressbooks.pub/brillianteddi/chapter/3-1-what-is-a-minimal-viable-product-mvp/>
3. Ben, S. A. (2023, May 21). *Mastering the MVP Concept: A Quick and Comprehensive Guide*. Retrieved from Srum-Master.org: <https://scrum-master.org/en/understanding-mvp-in-5-minutes-the-essential-guide/>



## ONLINE DISCUSSION

Discuss in groups the experiences in iterating the product, including the challenges and opportunities. *Post this to the online social forum.*

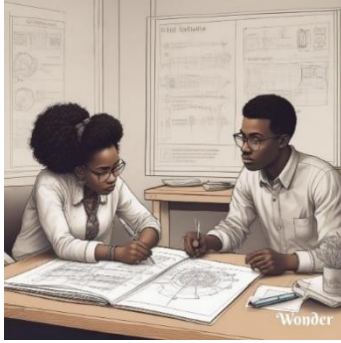


## TAKE HOME MESSAGE/SELF REFLECTION

How have I received feedback from the stakeholders? Post the answers to a reflective journal.

### WHAT'S NEXT?

- Write a narrative of iterating the product, the challenges and opportunities.
- Post your personal reflections on creating the product onto the reflective journal.
- Review and feedback of solutions



## MODULE 11: REVIEW AND FEEDBACK

INSTRUCTIONAL HOURS: 12

### Module Overview

In this module, you will learn the important ingredients in reviewing the capstone project and how to present and receive feedback. Other aspects include how to conduct documentations and evaluations.

### Learning Outcomes

At the end of this module, you will be able to



1. Evaluation of learning solutions to the extent they resolved learning needs and going to market.
2. Feedback and reflection of capstone project
3. Create documentation that aligns to the solution developed.
4. Conduct different types of evaluations (success and failures) of solutions.

### Learning Activities/Task List

## INSTRUCTIONAL MATERIALS & LEARNING ACTIVITIES

As the prototype is being iterated, it will undergo a few tests (use cases) to ensure buy-in of the solution, the solution resolves a problem and does not end up creating more challenges than solutions and that the final solution is secure and can lead to efficiencies and effectiveness. It is expected that there will be several meetings between the beneficiaries, stakeholders, and developers of the solution. There should be clear evidence of documentation of the feedback and where the changes have been made, including

authenticating (by beneficiaries) that the developers have made these changes. During this time, it is expected that the teams think about how to work best, experiment and learn from experiences. The feedback form given will be like the prototype phase with two additions: the number of iterations done; the evidence to authenticate iterations have been done.

There must be clear documentation of review and feedback of solutions. This can be information that is both quantitative (number of satisfied users, extent of coverage, savings made) or qualitative (on the usefulness of the learning solution including issues of sustainability). Data analytics tools aid in the collection, generating reports and streamlining the process. The evaluation will include to what extent the learning need has been met, the learning goals achieved, were the improvements successful? Other issues to consider is whether there has been a return on investments, number of features deployed, tasks completed, total output, product engagement (user adoption, satisfaction, and usage time), sprint burndown, retention rate and lead time.

The evaluations can be one-to-one evaluations, small group, or field evaluations. A post-implementation evaluation of success, failures, challenges, will enable assessment of the learning experience. A solution is always a work in progress and can be improved since learning needs are dynamic and complex.



#### VIDEO 1: CAPSTONE PROJECT PRESENTATION-

<https://www.youtube.com/watch?v=Ur3hsOjboJ0>



#### VIDEO 2: RESPONSE TO FEEDBACK ON CAPSTONE THESIS PROJECT -

<https://www.youtube.com/watch?v=6netEuBa3wA>



#### VIDEO 3: CAPSTONE PROJECT REVIEW -

<https://www.youtube.com/watch?v=mLY1aAWTjMk>



#### VIDEO 4: HOW TO PROTECT YOUR IDEA WITHOUT A PATENT -

<https://www.youtube.com/watch?v=GX7ZmA4BUog>



#### VIDEO 5: ASSISTIVE TECHNOLOGIES -

<https://www.youtube.com/watch?v=eKWX8twpBEw>



### **Podcast 1: Sharing a measure of success by Sinha Rashmi and Boutelle Jonathan-**

<https://ecorner.stanford.edu/podcasts/sharing-a-measure-of-success/>



### **Podcast 2: Ten enduring factors for high technology entrepreneurship by Byers Tom -**

<https://ecorner.stanford.edu/podcasts/ten-enduring-success-factors-for-high-technology-entrepreneurship/>



## **Quiz/Questions**

1. What are the new insights developed during the development of the learning solution?
  2. How has the solution served societal needs?
  3. What are the limitations of the solution (scope and users)?
  4. Which portfolio items effectively communicate the learning solution and what may be missing?
  5. What were the successes and failures?
  6. What were the risks and were they mitigated effectively?
  7. What is the way forward after completion of the project?
  8. What are the best ways to effectively communicate the results to society? (e.g. reports and dashboards)
1. Create a feedback report of the iteration that includes: whether the need has been served, what is missing, challenges or failures and new directions and post this to the discussion forum.
  2. Create a narrative of: how the different iterations were conducted and how feedback from each iteration was included in each successive iteration and issues in the maintenance of solutions (TEST and EVALUATE section of capstone project) and post this to the discussion forum.



## **REFERENCE LIST AND FURTHER READING**

1. Nguyen-Duc, A., Khalid, K., Shahid Bajwa, S., & Lønnestad, T. (2019). Minimum viable products for Internet of things applications: Common pitfalls and practices. *Future Internet*, 11(2), 50. <https://doi.org/10.3390/fi11020050>
2. Wu, L. (2023). Agile design and AI integration: Revolutionizing MVP development for superior product design. *International Journal of Education and Humanities*, 9(1), 226-230. <https://doi.org/10.54097/ijeh.v9i1.9417>



## TAKE HOME MESSAGE/SELF REFLECTION

1. To what extent has the solution proposed met the social learning needs? Post to a reflective journal.

## WHAT'S NEXT?

- Create a narrative of test and development based on the rubric given (refer to Part 4-Test and Evaluate of the proposal rubric)
- Communication and presentation of project outcomes.

# CAPSTONE PROJECT FORMAT

**Title**

**Acknowledgement**

**Abstract**

**2 marks**

**Part 1: Introduction**

Section 1: PLANNING

- Learning context and learning needs
- Learning problem
- Purpose statement
- Outline of the capstone project

**3 marks**

**Part 2: Literature Review**

Section 2: ANALYSIS AND DESIGN

- Review of how learning problem has been resolved in different contexts (literature review, including sourcing from primary sources where possible)
- Analysis of how the learning problem may be resolved using a learning theory and technology adoption framework based on previous problems.
- Design of solution to learning problem (using appropriate Design, Agile, instructional frameworks)
- Designing prototype (including investment and financial issues)
- Inclusion and Ethical issues that emerge in the design.

**5 marks**

**Part 3: Methodology**

Section 3: DEVELOPMENT

- Development methods
- Design of sprints and sprint reviews (how reviews, measurement yardstick will be done feedback)

**3 marks**

**Part 4: Findings**

Section 4: TEST AND EVALUATE

- Testing of iterations ( $MVP_1 \dots MVP_n$ ) and user feedback from each iteration

- Integration of iterations
- Maintenance issues of learning solution

**4 marks**

Section 4: DEPLOY (final evaluated solution)

- Scaling of solutions
- Issues around maintenance, investments, and support issues
- Marketing and advocacy issues in deployment

**3 marks**

## **Part 5: Reflections and Conclusions**

Section 5: REVIEW

- Feedback and reflection of capstone project steps (successes, failures, risks, way forward and limitations)

**3 marks**

## **References**

## **Appendices**

## **Portfolio of Evidence**

Portfolio of evidence can include: forms filled; work; test environments; tests(iterations); evidence of learning; evidence of implementation; feedback reports; website and videos; Feedback and reflection (peer/university/personal feedback)

**2 marks**

## **Student statement**

**I attest that the capstone project was developed and documented by me**

\_\_\_\_\_

**Name**

\_\_\_\_\_

**Signature**

\_\_\_\_\_

**Date**

## **Coach**

**I attest that the capstone project was developed by the above student, and I coached the student**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Name**

**Signature**

**Date**

**Capstone project documentation criteria**

| Description                    | Exceeds expectations<br>(Completes all requirements beyond satisfaction) | Above expectations<br>(Completes all requirements and shows some additional input) | Meets expectations<br>(Meets the standard expectations) | Below expectations<br>(Does not meet any expectation) |
|--------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| Planning                       | 3 marks                                                                  | 2.5                                                                                | 2 marks                                                 | 1 mark                                                |
| Analysis and Design            | 5 marks                                                                  | 4                                                                                  | 3 marks                                                 | 1 mark                                                |
| Development                    | 3 marks                                                                  | 2.5                                                                                | 1 mark                                                  | 1 mark                                                |
| Test and evaluate              | 4 marks                                                                  | 3                                                                                  | 2 marks                                                 | 1 mark                                                |
| Deploy                         | 3 marks                                                                  | 2.5                                                                                | 2 marks                                                 | 1 mark                                                |
| Review and reflections         | 3 marks                                                                  | 2.5                                                                                | 2 marks                                                 | 1 mark                                                |
| Appendices                     | 2 marks                                                                  | 1.5                                                                                | 1 mark                                                  | 0.5                                                   |
| Title, formatting and abstract | 2 marks                                                                  | 1.5                                                                                | 1 mark                                                  | 0.5                                                   |

**Capstone project solution**

| Description                                     | Exceeds expectations<br>(Completes all requirements beyond satisfaction) | Above expectations<br>(Completes all requirements and shows some additional input) | Meets expectations<br>(Meets the standard expectations) | Below expectations<br>(Does not meet any expectation) |
|-------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| Story board, flow chart and appropriate designs | 10 marks                                                                 | 8                                                                                  | 6 marks                                                 | 3 marks                                               |
| First iterations                                | 5 marks                                                                  | 4                                                                                  | 3 marks                                                 | 1 mark                                                |
| Successive iterations                           | 10 marks                                                                 | 8                                                                                  | 6 marks                                                 | 3 marks                                               |
| Final product                                   | 10 marks                                                                 | 8                                                                                  | 6 marks                                                 | 3 marks                                               |

## +REFERENCE LIST AND FURTHER READING

- Bordens, K., & Abbott, B. (2011). *Research Design and Methods: A Process Approach*. New York: McGraw-Hill.
- Carr, M., & Verner, J. (2024, September 5). *Prototyping and Software Development Approaches*. Retrieved from Penn State University: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=0b05add730e04843e234937a070f24b19efaadc3>
- Creswell, J. (2009). *Research Design: Qualitative, Quantitative and Mixed Method Approaches*. London: Sage.
- Gekeler, M. (2019). *A practical Guide to Design Thinking*. New Delhi, India: Friedrich-Ebert-Stiftung.
- Lewrick, M., Link, P., & Leifer, L. (2018). *The Design Thinking Playbook*. New Jersey: Wiley.
- Morris, R. (2008). *Project Management that Works: Real World Advice on Communicating, Problem Solving, and Everything Else You need to Know to Get the Job Done*. New York: American Management Association.
- Plattner, H., Meinel, C., & Leifer, L. (2011). *Design Thinking: Understand- Improve- Apply*. Berlin: Springer.
- Poulin, J., Kauffman, S., & Ingersoll, T. S. (2022). *Social Work Capstone Projects: Demonstrating Professional Competencies Through Applied Research*. New York: Springer Publishing.
- Starr, J. (2021). *The Coaching Manual: Fifth Edition*. Harlow: Pearson Education Ltd.

# REQUIREMENT CHECKLIST FOR A CAPSTONE PROJECT TO BE COMPLETED BY STUDENTS AS THEY PROGRESS THROUGH THE COURSE

| Year              | Description (tick of done on the boxes)                                                                                                                                                           | Total marks (narrative/paper) | Actual marks (narrative) | Product (solution) | Product marks | Actual product marks |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|--------------------|---------------|----------------------|
| Year 1            |                                                                                                                                                                                                   |                               |                          |                    |               |                      |
| Planning          | Learning context and learning needs identified <input type="checkbox"/>                                                                                                                           | 1 mark                        |                          |                    |               |                      |
|                   | Learning problem articulated <input type="checkbox"/>                                                                                                                                             | 1 mark                        |                          |                    |               |                      |
|                   | Purpose statement provided <input type="checkbox"/>                                                                                                                                               | 1 mark                        |                          |                    |               |                      |
|                   | Outline of capstone project (arrangement) <input type="checkbox"/>                                                                                                                                |                               |                          |                    |               |                      |
|                   | Coaching for planning phase (description of coaching and journaling of reflections) <input type="checkbox"/>                                                                                      | 2 marks                       |                          |                    |               |                      |
| Literature review | Review of literature of how problem has been resolved in different contexts <input type="checkbox"/>                                                                                              | 1 mark                        |                          |                    |               |                      |
|                   | Empirical analysis of how the learning problem may be resolved through learning and design theory or suitable technology adoption framework based on problem articulated <input type="checkbox"/> | 1 mark                        |                          |                    |               |                      |
|                   | Design of solution to the problem (reaching a consensus on the design and flow e.g. Agile, ADDIE or instructional frameworks) <input type="checkbox"/>                                            | 1 mark                        |                          |                    |               |                      |

|                   |                                                                                                                      |         |  |                                                               |          |  |
|-------------------|----------------------------------------------------------------------------------------------------------------------|---------|--|---------------------------------------------------------------|----------|--|
|                   | Design of solution <input type="checkbox"/>                                                                          | 1 mark  |  | Storyboard, flow chart or any appropriate design of a product | 10 marks |  |
|                   | Learner inclusion and ethical issues <input type="checkbox"/>                                                        | 1 mark  |  |                                                               |          |  |
|                   | Coaching for literature review phase                                                                                 | 2 marks |  |                                                               |          |  |
| Year 2            |                                                                                                                      |         |  |                                                               |          |  |
| Development       | Development methods (explanation) <input type="checkbox"/>                                                           | 1 mark  |  |                                                               |          |  |
|                   | Design of sprints, reviews and yardsticks <input type="checkbox"/>                                                   | 2 marks |  |                                                               |          |  |
|                   | Development <input type="checkbox"/>                                                                                 |         |  | Actual iterations (first most viable product)                 | 5 marks  |  |
|                   |                                                                                                                      |         |  | Actual iterations (other viable products)                     | 15 marks |  |
|                   | Coaching                                                                                                             | 2 marks |  |                                                               |          |  |
| Test and evaluate | Testing of iterations (explanations of feedback, challenge and success from each iteration) <input type="checkbox"/> |         |  |                                                               |          |  |
|                   | Sustainability of iterations (maintenance of learning solution) <input type="checkbox"/>                             |         |  |                                                               |          |  |
| Deploy            | Scaling of solutions (financial, human aspects) <input type="checkbox"/>                                             |         |  |                                                               |          |  |
|                   | Maintenance, investments and support of learning solution                                                            |         |  |                                                               |          |  |

|  |                                                                                                               |  |  |                        |          |  |
|--|---------------------------------------------------------------------------------------------------------------|--|--|------------------------|----------|--|
|  | Advocacy and communication during deployment <input type="checkbox"/>                                         |  |  |                        |          |  |
|  | Reflections and conclusions (Succeses, Failures, Risks, Way forward and limitations) <input type="checkbox"/> |  |  |                        |          |  |
|  | Appendices (portfolio of evidence) <input type="checkbox"/>                                                   |  |  |                        |          |  |
|  |                                                                                                               |  |  | Final product solution | 10 marks |  |

## SAMPLE PORTFOLIOS

1. Anna Marini: <https://www.figma.com/proto/CbzTBX0gqPzygxEqZEswZ/LDT-Portfolio-%7C-Ana-Marini?page-id=0%3A1&node-id=1-2&viewport=423%2C383%2C0.2&t=azrH0D2ZxyPxn1P-1&scaling=contain&content-scaling=fixed>
2. Chinat Yu: Hackathon Horizons- <https://chinat.notion.site/Chinat-s-Learning-Portfolio-b6ddab8100724477b003a17751d74ccb>
3. Cindy Lu: LearnTune- [https://docs.google.com/presentation/d/1pr62PFc36xJVBiR7EERGZupvnYHilfCp9YlceGrMoIM/present?slide=id.g2812a0e094d\\_0\\_1090](https://docs.google.com/presentation/d/1pr62PFc36xJVBiR7EERGZupvnYHilfCp9YlceGrMoIM/present?slide=id.g2812a0e094d_0_1090)
4. Deepak Varuvel Dennison: O Dinos- [https://docs.google.com/presentation/d/1fCqEZJ9AsolEljvpbYrizJ3l17947hhVsgUur4-SRck/present?slide=id.g26e1084da09\\_2\\_86](https://docs.google.com/presentation/d/1fCqEZJ9AsolEljvpbYrizJ3l17947hhVsgUur4-SRck/present?slide=id.g26e1084da09_2_86)
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