TEDU109 Digital Competence Course

Pre-Test Report

October 8, 2024

The general objective of this course is enabling learners to use digital skills effectively in order to enhance their academic and professional capacities. For this purpose, the course introduces the fundamental concepts of information systems and guides the learner to make sense of the digital ecosystem by exploring the relationships between those components. In addition, the course is designed to extend the reach of the productive capabilities of the learner by presenting the tools and methods for content creation, collaboration, and task management by means of digital platforms. Furthermore, the course is aimed at providing the learners with fundamental programming skills in order 1 to prompt them to contemplate the possible implementations of coding skills in their preferred field of expertise. In this context, Digital Competencies Survey evaluated students enrolled in the TEDU109 course as presented in Table 1.

The survey was conducted with the participation of 108 students from various faculties. The majority of students are from the Faculty of Arts and Sciences, with a total of 44 students (40.74%). After the Faculty of Arts and Sciences, the most represented faculties are the Faculty of Education (28.70%) and the Faculty of Economics and Administrative Sciences (24.07%). The age range varies between 17 and 29. In terms of gender distribution, out of 108 students, 72 are female (66.67%), 34 are male (31.48%), and 2 preferred not to respond (1.85%).

Table 1. Evaluation of TEDU109 Digital Competencies Course

Item	Yes (%)	Partially (%)	No (%)	Mean (M)
I can adjust text formatting in MS Word.	78.70	15.74	5.56	1.73
I can adjust paragraph structure in MS Word.	76.85	19.44	3.70	1.73

I can create a bullet list and table in MS Word.	52.78	32.41	14.81	1.38
I can insert an image into a document in MS Word.	83.33	11.11	5.56	1.78
I can adjust the layout, margins, and orientation in MS Word.	52.78	35.19	12.04	1.41
I can adjust the footer and header area in MS Word.	54.63	33.33	12.04	1.43
I can insert an image in MS PowerPoint.	91.67	5.56	2.78	1.89
I can insert a video/audio file in MS PowerPoint.	68.52	19.44	12.04	1.56
I can insert and draw shapes in MS PowerPoint.	68.52	22.22	9.26	1.59
I can arrange the order of slides in MS PowerPoint.	79.63	14.81	5.56	1.74
I can insert and adjust charts in MS PowerPoint.	57.41	30.56	12.04	1.45
I can select and apply a design theme in MS PowerPoint.	74.07	17.59	8.33	1.66
I can add and configure slide transitions in MS PowerPoint.	68.52	20.37	11.11	1.57
I can add and configure animations in MS PowerPoint.	49.07	33.33	17.59	1.31
I can arrange the order of animations in MS PowerPoint.	53.70	29.63	16.67	1.37
I can start a slideshow from a particular slide in MS PowerPoint.	62.04	21.30	16.67	1.45
I can hide and unhide slides in MS PowerPoint.	42.59	30.56	26.85	1.16
I can merge cells in MS Excel.	33.33	38.89	27.78	1.06
I can adjust row height and column width in MS Excel.	44.44	27.78	27.78	1.17
I can create a table with borders in MS Excel.	48.15	26.85	25.00	1.23
I can create a chart from a table in MS Excel.	35.19	31.48	33.33	1.02
I can add filters to columns in MS Excel.	28.70	29.63	41.67	0.87
I can use formulas to make calculations in MS Excel.	29.63	30.56	39.81	0.90
I can use formulas to check conditions in MS Excel.	27.78	31.48	40.74	0.87
I can search and find a data value using formulas in MS Excel.	30.56	28.70	40.74	0.90
I can distinguish an operating system from an application program.	50.93	25.93	23.15	1.28
I can name at least two mobile operating systems.	69.44	23.15	7.41	1.62
I can name at least three web browsers.	75.00	16.67	8.33	1.67
I can distinguish high-end from low-end hardware configurations.	32.41	36.11	31.48	1.01
I can convert memory size units.	31.48	34.26	34.26	0.97
I can notice a phishing attempt.	56.48	28.70	14.81	1.42
I can set a safe password for online accounts.	73.15	17.59	9.26	1.64
I don't use media/documents without a license.	56.48	25.93	17.59	1.39

I can create a stylish PDF report (Canva or similar).	50.93	30.56	18.52	1.32
I can create a stylish resume/CV (Canva or similar).	45.37	33.33	21.30	1.24
I can edit a video by combining clips or trimming certain parts.	47.22	26.85	25.93	1.21
I can edit a video to add or remove audio/music.	48.15	33.33	18.52	1.30
I can use Google Docs to co-edit documents, slides, or spreadsheets.	46.30	30.56	23.15	1.23
I can use web tools to conduct an interactive event (Mentimeter, Kahoot, etc.).	46.30	32.41	21.30	1.25
I can write an algorithm to define the steps for a solution.	17.59	19.44	62.96	0.55
I can compile/interpret a written code file to run a program.	14.81	18.52	66.67	0.48
I can define variables with appropriate types to store data.	13.89	20.37	65.74	0.48
I can use arithmetic and logical operators for calculations.	12.96	16.67	70.37	0.43
I can predict the outcome of a programming expression without compiling.	13.89	20.37	65.74	0.48
I can write an IF block to check a single condition.	13.89	14.81	71.30	0.43
I can write a FOR loop to iterate a certain piece of code.	13.89	12.96	73.15	0.41
I can write a WHILE loop to control repetition based on a condition.	14.81	15.74	69.44	0.45
I can use nested loops to examine multiple conditions.	13.89	18.52	67.59	0.46
I can define functions to create reusable code blocks.	15.74	15.74	68.52	0.47
I can pass arguments to functions.	14.81	15.74	69.44	0.46

The TEDU109 course pre-test results indicate that students have varying levels of digital competencies, with stronger performance in basic word processing and presentation tools. The highest-rated competencies are "I can insert an image into a document in MS PowerPoint" (91.67%) and "I can set a safe password for my online accounts" (73.15%), demonstrating that students are familiar with fundamental document and presentation creation as well as cybersecurity awareness.

However, spreadsheet and programming-related skills show significant room for improvement. The lowest-rated competencies include "I can write a FOR loop to iterate a certain piece of code"

(13.89%) and "I can use nested loops to examine multiple conditions" (13.89%), indicating that coding logic and function-based problem-solving require additional focus.

To address these gaps, the TEDU109 curriculum should increase hands-on programming exercises and enhance problem-solving activities in spreadsheet usage. Future assessments will track the impact of these interventions and measure students' long-term development in digital competencies.