ABSTRACT

Based on the Circular of the Minister of Education and Culture Number 36962/MPK.A/HK/2020 students must conduct virtual practicum activities in terms of learning in order to prevent the spread of Covid-19. This is supported by the circular letter of Telkom University No: 040/SKR4/REK/2020 regarding the anticipation of the spread of Corona Virus Disease (Covid-19) in the Telkom University environment, namely the transfer of face-to-face learning to online (online) and no onsite practicum implementation in that period of time. In this final project design and realize an online practicum learning application that refers to the calculation of the Power Link Budget (PLB) and optical fiber dispersion. The purpose of the PLB calculation is to determine the attenuation value to determine the power budget required for the receiver so that the power level is not less than the minimum sensitivity. While the purpose of calculating the dispersion that occurs in optical fiber is to determine the losses that occur during the propagation process so as not to interfere with the performance of the optical fiber. The results of the calculation of the accuracy of the features available in the Opticaloldis application are 99.99% from 100%. Based on the results of 30 respondents and four questions in the benefit category, MOS was obtained at 4.57 out of a scale of 5, so the Opticaloldis application can be declared useful for assisting the online practicum process. The Opticaloldis application is declared as a user friendly application based on the MOS calculation of 4.56 from a scale of 5 of 30 respondents obtained. The Opticaloldis application is also stated as an easy-to-understand application with an MOS value of 4.61 from a scale of 5 with an average MOS gain of 4.58 from a scale of 5, so that this damping and dispersion calculation application can be used as a Optical Communication System online practicum on PLB and dispersion materials.

Keywords: *Power Link Budget, Dispersion, Matlab, Attenuation, Application.*