

Extracting learning path data from learning history

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I. Abstract

E-learning is a tool that is used by both educational institutions and private companies. There is a tremendous amount of content on e-Learning platforms such as Udemy 100000 courses. learned. Developing a way automate design of learning plan for e-Learning is the purpose of this research. To achieve this, we use learning history collected using survey to identify skill mismatch. The learning path (Jih, H. J., 1996) of ICT professionals informs on skill mismatch (EU commission, 2020) when confronted to an academic learning path. People have a finite amount of time to achieve as much as possible. Learning path adaptation allows saving time on training. This gain of time allows people to seek the balance between skills diversification and specialization.

II. Results & Discussion

Our first step was to collect through surveys the learning history of information technology graduates. We collected data on what do professionals have to learn between graduation and the end of their first year of employment. With this information we can identify skill mismatch. Professionals will have during their school to work transition to undergo training and acquire extra skills. Their purpose is to adapt better to their new environment. In 2019 Japan corporate training expenditure was over 529 billion Yen. This represent a tremendous investment. It also shows that retraining is occupying a great deal of time for countless people. By relying on professionals' experience the need for retraining can be reduced. But also reduce skill mismatch. The goal is to simplify as much as possible the learning path. To build by addition of selective content a short yet personalized learning path. As can be seen in table one while skills learned in school are critical some skill such as Debugging cannot be easily discarded.

Table 1: a professional in ICT learning path

	Skills
In School	Logical thinking, problem solving, fundamental engineering, ability to reach consensus.
Inhouse	Programming skills (development, debugging, test), Critical thinking.

This data can be complemented by using information in resume and curriculum vitae. The data generated by these operations may prove to be valuable to the content providers to see if the learning path generated through this data can affect the conception of curriculum (P. Stabback, 2016). As they would bring the learning institution closer to the market they prepare students for. Using the survey, Professionals can express their learning history in terms of skills learned. Based

on this history undiscovered or expressed learning path can be deduced. Some disadvantages come with the survey method. First is memory, we do not necessarily remember the details of our learning history mainly some main points. Second is time industries change, in order to provide useable data, we need to maintain up to date information on market requirement.

III. Conclusion

In conclusion in order to improve the quality of education, identifying the skills required for learning path generation is critical. As an additional source off data consulting professionals is a viable method. If we can account for what is forgotten.

IV. References

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