

# Employability, Lifelong Learning, Personal Development Planning and Eportfolios at HKUST

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## ABSTRACT

*PEAKS: Portfolio of Essential Attributes, Knowledge and Skills is an online personal-development-planning and portfolio-showcasing tool. The project was funded by the Center for Enhanced Learning and Teaching at the Hong Kong University of Science and Technology. This system facilitates personal development by moving individuals through a repeatable, experiential learning cycle of Assess, Plan, Do and Review.*

*The system aims:*

- \* To enhance the quality of the higher-education experience through the process of personal-development planning.*
- \* To encourage lifelong learning and reflection.*
- \* To enable the learner to make appropriate life and career choices.*

*The system facilitates the integration of students' personal-development planning with their academic and extra-curricular activities. The system is constructed on the basis of learner self-direction and helps students' to take control of their own learning through the development of critical self-awareness. It helps learners to recognize and value essential employability and lifelong learning skills, such as learning-to-learn skills, problem solving, and personal and interpersonal skills. It is process driven, moving students through an experiential learning cycle that incorporates self-assessment, action planning, implementation and reflection as part of lifelong learning. Students can tailor the system to meet their personal-development needs and are given a very high degree of control of who has access to their personal-development-planning portfolio, as well as when it is made available to others.*

*The portfolio part of the PEAKS system allows students to showcase to potential employers the key attributes, knowledge and skills needed for employability in the 21st century, as called for in the Hong Kong Government's 2000 education reform document 'Learning for Life Learning through Life: Reform proposals for the education system in HK'. They may also keep using the system as HKUST alumni and thus use it for their continuing professional development in their working lives.*

*This presentation will provide an overview of current international work in this area and discuss some of the lessons learned from trying to integrate this particular system into undergraduate curricula at HKUST.*

An electronic portfolio (eportfolio) is a powerful tool for learning and assessment. Learners build and maintain a digital repository of artifacts, which they can use to reflect on and to develop themselves professionally as well as demonstrate competence from their learning for their university program and from prior or extra-curricular learning experiences. Through having access to their records, digital repository, feedback and reflection, students can achieve a greater understanding of their individual growth, career planning and résumé building. Providing learners with a sense of control over the direction of their professional development and over how they are represented is what makes the eportfolio such a potentially valuable tool.

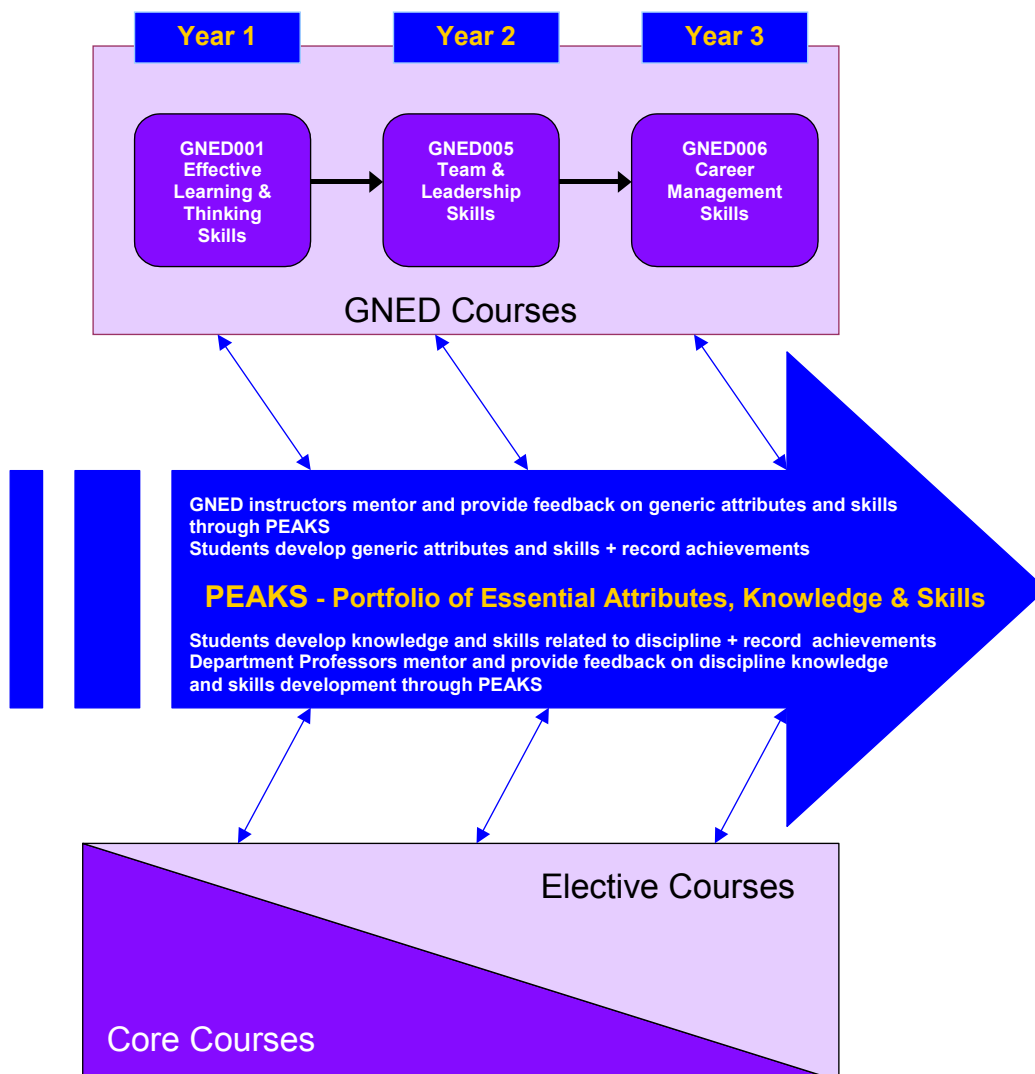
The impetus for developing an eportfolio system at HKUST came from a number of sources. These included: comments from Hong Kong employers about their assessment of the extent to which fresh graduates entering the workforce met their needs; comments from the HKUST faculty survey on Undergraduate Teaching at HKUST in Spring 2001; and my own teaching experiences and discussions with students and colleagues at HKUST. As can be seen in the table below, there is considerable overlap between the concerns of faculty about student learning and the concerns of employers about the abilities of fresh graduates to meet their perceived needs, problem-solving abilities and attitude to work/study being two key areas of agreement.

Employer Survey (EMB, 2000)					HKUST Faculty Survey			
Aspect (scale 1-5)	Importance		Performance		Aspect (%)	Moderate	Low	Very Low
Work attitude	4.44	1	3.57 (0.87)	2	Study Attitude – Motivation	41.4	27.4	11.1
Interpersonal skills	4.29	2	3.52 (0.77)	4	Classroom discussion skills	27.7	39.5	21.0
Analytical & problem-solving skills	4.24	3	3.26 (0.98)	7	Solving open-ended problems	30.9	34.7	22.6
English language proficiency	4.20	4	3.38 (0.82)	6	Percentage of students estimated to experience difficulties due to English proficiency	60-41%	40-20%	Less than 20%
Numerical competency	4.14	5	3.52 (0.62)	4		14.9	24.9	25.0
Information technology literacy	4.04	6	3.62 (0.42)	1				
Management skills	4.01	7	3.13 (0.88)	8	Self-management - Dealing constructively	33.4	34.7	14.6
Chinese language proficiency	3.98	8	3.57 (0.41)	2				
Overall	-	-	3.46	-				

Sources: Survey of Employers Satisfaction with First-Degree Graduates Performance, EMB, HKSAR Government, 2000; Survey of Undergraduate Teaching at HKUST, Survey Research Center, Division of Social Science, HKUST, 2001

Table 1. Concerns of Employers and HKUST Faculty with Graduates and Undergraduates

The HKUST eportfolio system called Portfolio of Essential Attributes, Knowledge and Skills (PEAKS) was one part of a strategy for trying to address some of these concerns. The second strand was to develop a series of three lifelong learning courses on learning and thinking skills, team and leadership skills and career management skills respectively. The first of these aims to support students in their transition to the more self-directed, critical thinking forms of learning required at university. The second is aimed at helping students make productive use of project-based teamwork both at university and in the workplace. The final course in the series is help students prepare for careers in turbulent, fast changing times in which a career for life is a thing of the past and managing a career has shifted from being the responsibility of the employer to being the responsibility of the individual employee. The third and final strand was to offer this to departments as a ‘package’ to be integrated into a complete undergraduate curriculum (see figure below).



When work began in January 2002 on the HKUST eportfolio system, there were already a number of similar initiatives in higher education internationally, particularly in the US, Canada and the UK. Within the US, professional bodies such as the

American Association for Higher Education (AAHE) were coordinating work in this area. In Canada, it was mainly employers who were driving this development through the Conference Board of Canada. While in the UK, it was part of a governmental top-down approach for tertiary education with the implementation of progress files, personal development planning and records of achievement. In the construction of the HKUST eportfolio system, the author researched all these initiatives and the educational research knowledge base on which they were founded.

The PEAKS eportfolio system aims:

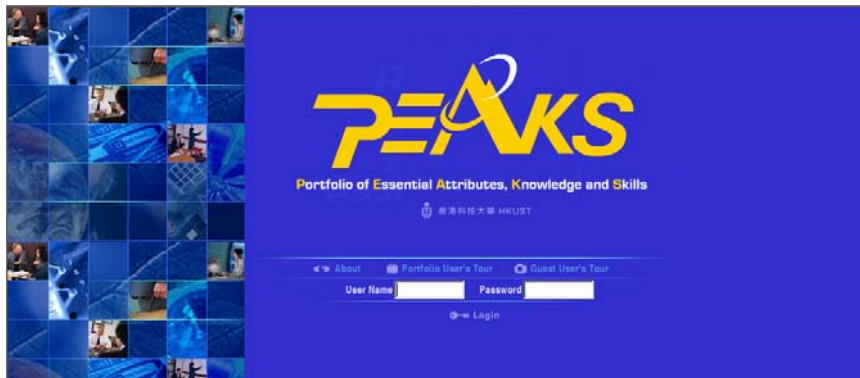
- To enhance the quality of the higher education experience through the process of personal development planning.
- To encourage lifelong learning and reflection.
- To enable the learner to make appropriate life and career choices.

The system facilitates personal development by providing a framework and cognitive scaffold for students to move through a repeatable, experiential, action-learning cycle of self-assessment, action planning, implementation and reflection as part of lifelong learning.

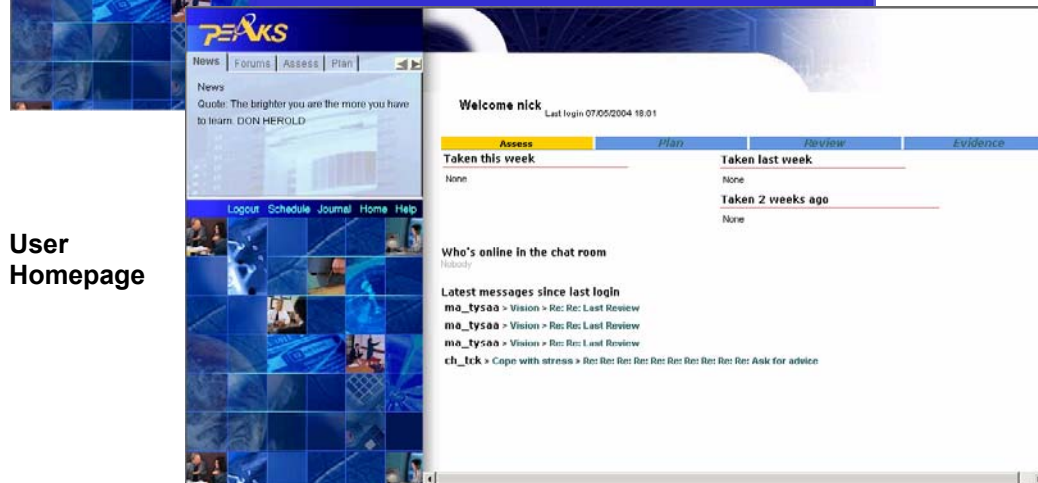


It also facilitates the integration of students' personal development planning with their academic and extra-curricular activities. The system is constructed on the basis of learner self-direction and helps students take control of their own learning through the development of critical self-awareness. It helps learners to recognize and value essential employability and lifelong learning skills, such as learning-to-learn skills, problem solving, and personal and interpersonal skills. Students can tailor the system to meet their personal development needs and are given a very high degree of control over who has access to their personal development planning portfolio, as well as when it is made available to others.

The portfolio part of the PEAKS system allows students to showcase to potential employers the key attributes, knowledge and skills needed for employability in the 21<sup>st</sup> century contained within HKUST's mission statement and objectives. They can also keep using the system as HKUST alumni and can use it in their continuing professional development in their working lives.

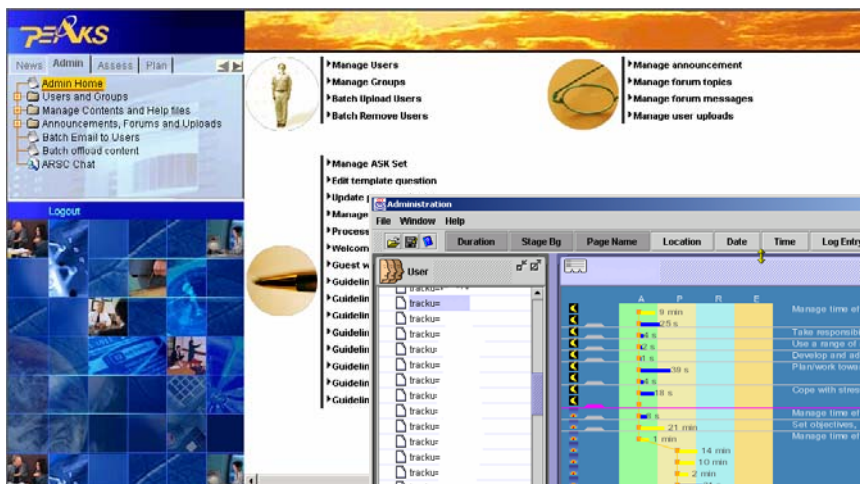


PEAKS System Homepage

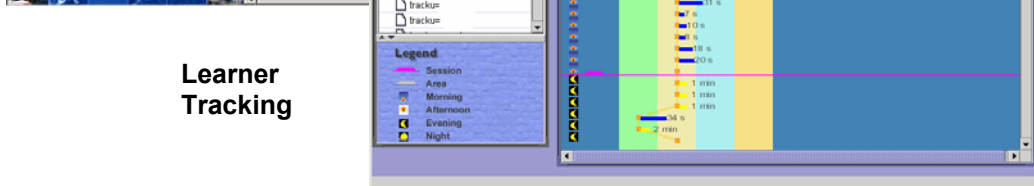


User Homepage

The administration of the PEAKS system is carried out through the web browser and there is a tool for visualizing students' use of the system based on the database log (see screen shots below).



PEAKS Administration



Learner Tracking

## STUDENTS REACTIONS TO PEAKS

The system has been in use for two years now on the GNED lifelong learning courses, with over 200 students using the system. There has been a number of enhancements to the system in response to student feedback obtained at the end of each semester.

Students' reactions to personal development planning and the PEAKS system overall vary widely but the majority do find it useful, even asking for access to continue after graduation. It is interesting to note that these reactions generally become increasingly positive as you move from freshmen to seniors. Some comments from users are given below.

*'Also, although PEAKS is very good tool for helping us monitor the learning process, it needs time to develop, and I don't think we can have a lot of improvement in those areas listed in PEAKS within just one semester.'*

*'After working on PEAKS for one semester, I learnt things that I could not learn in other major courses. I understand the importance of setting personal goals and plans. Planning helps me to do things systematically and efficiently. Since I understand the good features of setting a plan, I have started to use a diary which helps me to set a plan for each day and week. I gain a lot from using the diary. This habit helps my careless character and developing good time management skills.'*

*'The most important thing I get from the PEAKS system is that I have improved on my subjective character. The questionnaire done by my groupmates in the final year project and classmates showed the fact that I have improved in the area of respecting the views and values of others during discussion.'*

*'PEAKS helps me to really improve in some specific areas through scheduling and reminding me to follow the schedule. Moreover, I can ask my friends to give me some feedback and better suggestions to give me a more efficient result.'*

*'I believe life-long learning and continuous improvement is the way to success. Hence, PEAKS is my first step in making an exploration of my potential. In the future, I will keep learning how to improve myself and then upgrade my capabilities.'*

*'I found PEAKS really useful in helping me to focus on my weaknesses for improvement.'*

*'The electronic portfolio is a very new idea. But it is also suitable for year one only, as they can use this portfolio to record what they have done during the three year university life. This portfolio has many aspects, but some aspects are not clearly defined and are difficult to*

*measure. Such as drive and adaptability. There are limited methods for measuring these attributes. I think examples of how to assess these attributes should be given to the students.'*

*'Through improving the selected areas in PEAKS, I have made improvements in certain aspects and some may still need time to work on. Although not all have improved, I have learnt to know what are my weaknesses and what's wrong in my approaches towards improving the attributes. Before I have really done something on PEAKS, I have thought of ways to improve it and I have never noticed the problems associated in my methods to improve something. Through actually doing through PEAKS, I can realize what are the shortcomings and the impossibility of my proposed methods and I can find out ways to make the methods work. I learnt not only from the real outcomes of improvements but also during the process.'*

*'The PEAKS system is really useful. With the PEAKS system, I feel like having someone to access my work on achieving certain goals! It is good that I can use the function 'turn feedback on' to ask people to give feedback to me. I think feedback is really useful to guide me to work out my goals.'*

*In summary, I think I have learnt a lot using the # system. The first time when I reached the system, I think it is really interesting. Reading through 'Access', I found there are quite a lot of areas that I would like to practice. Adding one more every week, I didn't realize that I have done 7 of them! While doing PEAKS, I can follow the plan I have stated to do things and achieve my goals. If I am given a chance to do it again, I would do fewer 'areas' but more in depth.'*

*'PEAKS reminded me of some of my weakness that I have ignored for a long time. When doing the assess tasks, I found out that there were many aspects I didn't do well. As I can do only some of the tasks at one time, so I can gradually improve on my weakness in all aspects by keep on working on other tasks next time.'*

*'For my feedback on PEAKS, I think it is a useful program for students to improve themselves including attributes, skills, etc. Most of the tasks need to be finished in the long term, so we need to continue to review and review again to achieve the objectives we planned.'*

*'I think PEAKS is a very well-organized system giving students an opportunity to evaluate themselves. By assessing myself, setting up plans and reviewing my own performance, I get improvement in different areas and I know more of myself. In short, PEAKS is a good tool for self-development.'*

## **LESSONS LEARNED**

Despite these positive comments, an analysis of students' use of the system through the tracking system shows that once they leave the GNED course, their use of the system stops completely. This is because students will naturally prioritize what they devote time and effort to and this depends largely on their perception of the extent to which an activity is valued by their department. For use to be sustained, students need to be sent consistent and persistent messages of its learning and employability value. Thus the major learning point with such a system is that it needs to be implemented across the core courses for a UG program over the whole three years and needs to be integrated with other program activities such as faculty advisement and mentoring. If it is implemented in this way, students will be sent strong messages that the process embedded in the system is valued by their department and by the institution as a whole. CELT is currently working with MATH and ISMT departments to try to integrate this system more centrally into the curriculum.