Equipping International Learners in Aotearoa New Zealand with Kiwi Experience

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Abstract

Employability is a double concern for international learners in New Zealand. Other than the discipline on technical skills, potential international learners must be aware of the New Zealand work environment. International students face a problem when it comes to finding their first job, due to lack of Kiwi experience. Tertiary education providers are trying to include industry exposure components into their academic programmes to provide for this kind of Kiwi experience to international students. The industry project offered to IT Level 7 international students is used as a case study in this paper about such an industry component. The findings of this paper showed that industry projects are effective for IT Level 7 international students to increase their employability and allow them to start building their Kiwi experience that is much needed to secure their first job in New Zealand**.**

Keywords: *Tertiary Programme Design, ICT programme Design, Industry Projects, Work-Ready Graduates*

Introduction

Producing employable graduates is one of the main goals for most of New Zealand's universities. All universities provide students with opportunities to learn work skills through internships or work placements/ practicums. About 32% of all university graduates in 2013 completed a professional qualification (Universities NZ, 2015). Nettleton, Litchfield and Taylor (2008) identified that skills identified by professional societies are critical for contemporary university graduates and are used to develop effective teaching and learning strategies, tutorials, activities and case studies. Work-ready key attributes include communication, ethics, and professionalism, both in the local and global perspectives. Other skills include information literacy, management and enterprise initiatives combined with problem solving, critical thinking and research abilities.

Apart from the abovementioned work-ready key attributes, according to the Our NZ way of working (New Zealand Now, 2019), international learners are struggling to find work due to lack of 'Kiwi experience'. Employers in New Zealand expect prospective candidates to have Kiwi work experience (Anthony, 2018). To fit in with the role successfully, prospective candidates have to be aware of the New Zealand way of working. This is one of the main concerns for all graduates or migrants looking for their first job. This paper takes the industry project offered to Level 7 Graduate Diploma in IT (GradDipIT) students at Aspire2 International as a case study. This project is used as a tool to connect international students with industry partners who provide them with an opportunity to work on real projects in a real or simulated work environment.

The rest of the sections of the paper present a review related work, the industry project as case study to equip the international learner with Kiwi experience, research methodology followed by the results of the research and conclusion.

Related work

A richer set of experiences gained by students partaking in industry group projects through "dealing with real problems rather than simple or even complicated academic exercise" (Chamillard et al, 2002) increase students' interest and motivation to complete the project. Industry project in the tertiary environment plays an important role as it helps students get some insight into the business, appreciate the business aspect in what they learn, work in cross-functional teams and solve real world problems that translate into real world business improvements. This not only benefits students but also industry and academic institutions. Lamancusa, Soyster and George (1997) highlighted a few problems encountered such as communication and time constraints that are something we could learn to avoid. Johns-Boast and Patch (2010) highlight that an industry project is beneficial to industry partners who are participating in different ways, such as building strong partnerships with academic institutions and a good reputation among students as potential employers, allowing the employers to monitor the students while doing their projects and spot the promising candidates. The industry project outcome (eg software product) may have commercial value and can be used by the company to reduce the development cost of such products. Chamillard et al (2002) also identify with Johns-Boast et al's model of industry-based group projects, which provides real benefits to each of the three stakeholders – students, industry and the academic institution.
Zulita Mustafa (2019) has emphasised the necessity to collaborate between universities and industries. This approach enables the industries to be able to contribute and lead the curriculum design, development and provide industry involvement. This includes the delivery of industry projects, internships, hands-on training, and real-life case studies. Talents are built via academic-industry linkages, as well as academic advances through technology transfer and knowledge sharing. This creates an effective relationship within an ecosystem of mutual support and understanding.

Industry project as a sase study

Industry Project is offered to students in the third term of their study. This is a compulsory course and students are required to embark on any IT project offered by a local business in a team that comprises 3 to 4 members. Students take 14 weeks to complete their project, with a final presentation and report submission. Every term, IT faculty must have client projects ready for all students. Therefore, the faculty has to constantly establish new relationships with local businesses.
Below are the actions initiated before and after a client has committed to an industry project:

Action before the project starts:

- Introductory meeting with the client to brief them about the nature of the industry project.
- An interested client sends in the project scope or brief.
- Programme leader and tutor decide on the grouping of students and assign projects.
- Client, students and Aspire2 International sign a tri-party project agreement.

Action after the project starts:

- Kick-off meeting between students and the client.
- Each group finalises the project scope, submits a project proposal and project plan.
- Weekly communication with client on the progress of the project.
- Fortnightly meetings with clients.
- Students embark on the project until the final presentation.
- Feedback collected from industry clients.

The achievement of each industry project is determined by meeting the client's requirements and feedback provided by the client. To reach the required outcome, students need to apply various soft skills such as communication skills, problem-solving skills, collaboration skills, creativity and critical

thinking to solve the complex problem. However, technical skills and technologies could not be left out as well. Students have to pick up new technologies or frameworks according to the client's requirements. This provides an opportunity for students to upskill to prepare themselves for future employment.

Methodology

Educational research can be carried out in several ways, depending on its purpose. Given that the GradDipIT is an ongoing programme, we found action research to be the most suitable methodology for this study. Action research can be defined as "an approach in which the action researcher and a client collaborate in the diagnosis of the problem and in the development of a solution based on the diagnosis" (Bryman & Bell, 2011). This enables the collaboration between research and other stakeholders to solve the organisational problems. Figure 1 refers to the 4-stage representation of the Action research methodology. It is a cycle of inquiry process, which starts with plan, execute or act on the plan. Then it suggests and evaluates an improving change to current procedure, learning more about both the procedure and action review in the process.

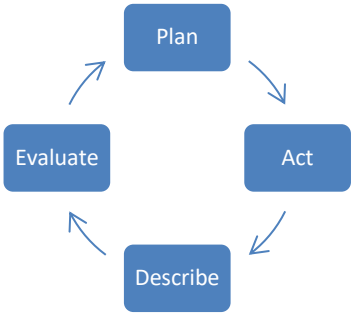

Figure 1: 4-stage representation of the Action research methodology by Bryman & Bell, 2011

Action research is widely used in educational research where the objective is to formulate a solution or guideline (Winch, Oancea & Orchard, 2015). This study aims to critically evaluate and reflect on the impact of the industry project component within the GradDipIT programme on learners. Hence, we used Action research as it allows academics to reflect on their practices and evaluate the programme (Norton, 2018). To measure our programme's effectiveness, the following surveys were conducted:

1. Graduate profile outcomes
2. Students' feedback on the course
3. Industry partners' feedback
4. Graduate employment survey

Surveys 2, 3 and 4 were conducted on students in the year 2018, thus they encompassed students in four of our terms. Survey 1 was conducted on the students from 2018 and the ones who completed in the 3rd and 4th term of 2018.

Results and Discussion

To show the effectiveness of the industry project as a tool to provide international learners with 5Cs, data has been continuously and consistently collected on different aspects related to the programme. The data collection tracks issues in four main categories, which are the graduate profile outcomes, the learners' feedback, industry partners' feedback and employability.

Learner's background

Students at the school are from approximately 30 different markets such as the Indian sub-continent, the Philippines, Russia, Latin America, Korea, Japan, Thailand and South-East Asia. They are diverse in terms of culture, educational background and experiences. These students have either completed a bachelor's degree or a qualification at level 7 or above to join the GradDipIT. Therefore, most of the students in this programme do not have an IT background and they plan to switch to the IT industry to meet the market demand in New Zealand. The table below shows student diversity data from Term 3 and Term 4, 2018 at Aspire2 International.

Table 1: Diversity data

Country	**No. of students**
India	10
Sri Lanka	2
Philippines	4
Korea	2
Iran	2
Russia	1
Ukraine	1
Indonesia	1
Argentina	1
Nepal	1
China	1
Bangladesh	1
Total	**27**

Graduate profile outcomes

Table 2 shows the industry project learning outcomes over the duration of 2018. These results are from 51 graduates enrolled in industry projects. Many of these outcomes were with Highly Confident and Confident ratings. This is a clear indication that students were confident with the skills acquired through the course offered and were ready for employment.

Table 2: Industry Project Outcomes

GPO	Highly Confident and Confident	Somewhat Confident	Not Confident
1.Produce a detailed proposal for a complex ICT project.	80.05%	19.95%	0%
2.Undertake and manage a complex ICT project.	80.05%	19.95%	0%
3.Demonstrate a professional attitude while undertaking a complex ICT project.	85.90%	14.10%	0%
4.Integrate learning from other courses in order to complete a complex ICT project.	67.23%	32.78%	0%
5.Document and critically evaluate a complex ICT project.	73.70%	26.30%	0%
6.Evaluate alternative development methodologies for a software project (e.g. agile, prototyping, rapid application development, waterfall).	68.30%	31.70%	0%
7.Devise appropriate testing strategies for a software project.	57.48%	42.53%	0%
8.Investigate legal, privacy and security considerations for a software project.	44.45%	55.30%	0%
9.Conduct HCI analysis and design for a software project.	62.80%	37.20%	0%
10.Identify and solve complex technological problems and challenges.	72.80%	27.20%	0%

Learner's and Industry Partner's Satisfaction

Gathering learners' and graduates' feedback is an essential and continuous process. Table 3 shows the feedback gathered from 4 graduates. The graduates were asked to share their experience and satisfaction with the industry project and programme.

Table 3: Graduates' Feedback

Graduate Feedback 1	*He declared industry project as the most important and rewarding subject from the programme. He was working with local client to develop a web application. He commented the experience was totally fruitful, as he could apply project management skills, agile methodology to approach to the final solution in a professional way, programming concepts and time management, as well as many other topics learnt during our Diploma. He managed to deliver an MVP product as required by our client, and at the end we got a great feedback coming from the client.* *Technologies used: HTML, CSS Grid, Bootstrap, JavaScript, jQuery, Node.js, MongoDB, Heroku, Git control version, etc.*
Graduate Feedback 2	*She commented industry project was a really good experience and first approach to a real customer of New Zealand market. She learnt to communicate with local client and had opportunities to explore the IT technologies needed in the market. Therefore, she encouraged students to use new technologies and tools such as Trello, Azure Dev Ops, GitHub, etc.*
Graduate Feedback 3	*She really liked this subject, because she had worked with real customer. She learned new technologies and improved her presentation skills. She would like to suggest that students should use the applications which are used in New Zealand to create the product such as GitHub, Trello and Microsoft Azure DevOps.*

Graduate Feedback 4	*She commented the Industry Project offers an opportunity to the students to have a look and experience New Zealand IT industry workforce. It gives them idea on what to expect and see how our skill-set has prepared them for the prospect employers. In additional, industry project provides a view of how to assess themselves and make themselves competitive in the field of their choice from client meetings, designing, implementing and reporting of the project assigned to them.*

GradDipIT students have worked on several projects in 44 NZ businesses. The feedback received from the industry partners shows that they are highly satisfied with project outcomes and confident that the graduates are work-ready. Every term new companies are approaching us to provide new projects for GradDipIT students to work on. Several students have been offered full-time employment directly with our industry partners after completing their industry project with them. Other students have got references from our industry partners that helped them secure a job.

Table 4 summarises feedback from three of the 44 most recent industry partners that we collaborated with.

Table 4: Industry Partners' Feedback

Industry Partner / Observer	Feedback
Industry Partner 1 Founder of IT company (Web Development and Data Mining)	*Great presentation and you guys did an excellent project I am sure you will pass with flying colours ☺* *As always, the follow up is how I can help you both get into full time work so when you are ready send me your updated CVs and let me know when your full time work visa starts.*
Industry Partner 2 Chief Technologies of Policy Provider company	*I'm really excited to see the showcase on Friday – the work I've seen so far is spot on for my expectations of a minimum viable product and the work the team have done is outstanding. I'm already thinking of phase 2 (and 3) for the next few terms.* *One thing I want to check with you is around the next steps for getting the code handed over and ready to run in production. I also want to explore something with you regarding commercialisation models moving forward and a couple of ideas I have.*
Industry Partner 3 Founder of Psychology company	*I have to say the students did an outstanding job, both learning a challenging technical framework in a short amount of time and building a complex yet user friendly webapp.* *The largest growth opportunity is in communication, both in person and digitally. We saw a significant improvement during the project, and I'm confident they will continue to improve over the course of the year.* *If you are looking for junior developers that will approach the role will an open mind and you can provide a supportive learning environment, these students will be a valuable asset to your team.*

Employability

Table 5 describes the employment rate of graduates one year after completing the programme.

Table 5: GradDipIT Graduates' Employability

Term	No. of	Responses	Employed	IT	Other	Further study

	Graduates			Employment	employment	
T1 2018	7	6	6	6	0	0
T2 2018	17	11	11	8	3	0
T3 2018	15	9	8	6	2	1
T4 2018	12	7	7	6	1	0

The data gathered from GradDipIT graduates show that the employment rate of students within one year after graduation was an average of 97.5% (100%, 100%, 90% and 100% for T1, T2, T3 and T4 2018 respectively). The employment outcomes have confirmed that industry project was helpful to students. It provided them with essential knowledge and skills necessary for securing their IT relevant jobs in New Zealand.

Conclusion

Having a Kiwi experience is one of the main barriers for international students to secure their first job in New Zealand. Including industry exposure components into programmes is a focus of international tertiary education providers. This paper shows that the approach of including final term industry project is an effective way for international students to start building their Kiwi experience and becoming work-ready graduates. The implementation of the industry projects has in some occasions helped students get full and part-time jobs with their project sponsors and in other cases, students got referral and references from well-known industry partners that helped them in finding their first job. The data and graduate feedback confirm that the industry project was of great help to students to improve their employability and secure their first jobs in New Zealand.

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AUTHORS

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