Connecting the Dots: Applying Classroom Learning in Economics at Workplace

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One of the main expectations from university education is that it prepares student for the workplace. One of the ways many universities are preparing students is by including workplace learning as an integral part of its curriculum. Analyzing the experiences of students in a work placement course, the paper makes various improvement suggestions for Economics classrooms. The paper finds that economic classroom teaching should balance between technical aspects of mathematical modeling and the intuitive explanations behind it and include real world application of models. Economics course evaluation system should focus on building generic skills. Classroom teaching of economics should include more policy discussions, qualitative data analysis, inter-disciplinary perspectives and 'positive' economic analysis to match modern workplaces.

INTRODUCTION

One of the main expectations from university education is that it prepares student for the workplace. But there is debate about how much universities should prepare the students for the workplace. University education system should meet the workplace demand and decide the extent of workplace preparation for their students. As every workplace differs in terms of work environment, work ethics and culture, how much universities can actually prepare the students? In today's world, the workplace is continuously changing with new innovations and techniques. Universities are slow to adjust to this fast changing work environment and lag behind. Also there is debate on how much of classroom education on theoretical aspects of a discipline is applicable to the increasingly inter-disciplinary workplace. This is even truer for economics as a discipline. How the university education should mix generic skills versus discipline specific skills in its curriculum is another matter of debate. One of the ways many universities are tackling these issues is to include workplace learning as an integral part of its curriculum. This paper tries to analyze these debated issues. The paper also tries to identify specific skills that are needed for economics jobs. It uses experiences from work placement of economics students of Grant MacEwan University to support the discussion. Though economics students get employed in variety of fields, the paper mainly focuses on economic analyst jobs.

THE PLACEMENT EXPERIENCE

Historically, job placements in universities were mainly prominent in business, health and other professional degrees. Most students of economics undergraduate program end up in work rather than in graduate schools and the need to connect classroom learning to workplace is felt in economics programs

across the world. So increasingly, like many other disciplines economics programs are also using job placements as part of their curriculum. Students and educators are increasingly becoming more appreciative of the positive contributions of work placements in overall learning of students. Most MacEwan students also end up in jobs after their graduation from the university. MacEwan University Economics program started its work placement program in the summer of 2007. From winter 2007, the students started getting credit for the work placement. Till 2012, a total of twelve students were placed under the work placement. They were placed in Alberta Environment and Sustainable Resource Development Alberta. The positive experiences of the students are nicely captured in the comments below from several MacEwan job placement students.

COMMENTS

"*This is the best experience ever! I know when I first heard about this position I was intimidated and thought that I would be unqualified for this position. I will definitely say that for the first couple weeks I felt very overwhelmed. Most of the things I was reading felt as though they were way over my head. But in my opinion, I felt it was better to feel like this now rather than when I get out into the real world. This experience sets you up for work in the real world- it is definitely a confidence booster! I certainly feel like I can do anything, try anything, and learn anything. In interviews, I will feel more proud explaining my experiences with Alberta Environment then my experiences with Tim Hortons- don't get me wrong they were both good experiences, but I prefer to tell someone the assets that I can bring to their company because of what I have learned working with Government. After the first couple of weeks, things do get a lot better. People at Alberta Environment are very eager to have students, and try their hardest to make your experience here a good one.*

Sometimes I do feel a little lost because things can get pretty hectic, but for me that was the best way to learn thing like creativity, leadership and assertiveness. I consider myself a shy individual, but when I was faced with those kinds of situation I was forced to take action and figure things out. Mind you, I was never doing things alone; there was always someone there to help me. The challenge I encountered most often was simply finding the right person and making connections. Everyone is so friendly and willing to help you out any way possible. They LOVE students! Students learn from them, and they lean from us students."

"Overall, my expectations were exceeded. It was a challenging experience that forced me to apply my skills and knowledge. It forced me to go back and re-learn some econometrics and other techniques. Also, it forced me to keep communication open with different parties and ask questions."

"I felt like I also got a sense of how a professional atmosphere can bring out a whole new level or ability from a well-prepared student."

But all expectations were not met by all the placements. Below are some comments on expectations that were not met from the placement.

"I was disappointed with the level of engagement with others in the workplace, not that they weren't welcoming, but the environment was not very collaborative."

"I did not get to actually work on a project or do any actual work for the department, although I did write a paper for them ……and was given support throughout the writing of this paper it did feel very academic and not really like true work experience. Furthermore, a lot of the course was focused on teaching about the department which may not be applicable to any other workplace (although I recognize this is probably not a readily solved problem)."

The MacEwan student work placement experiences unveiled several issues at workplace that relates to connecting classroom learning to work. Some of these issues are discipline-specific and others are general issues. The students expressed their opinions through a survey with open ended questions. The surveys were done for students placed in between 2007-2012. The issues are discussed below in rest of the paper.

ABSTRACTNESS OF ECONOMIC THEORIES, MODELLING SKILLS AND INTUITIVE EXPLANATIONS

Economic Theories

Economic theories deal with complex human behaviour. One universal technique used in economics is to use assumptions to impose restrictions on the real world and simplify the human behaviour to analyze it. Most economic theories deal with two variables and are famously known as 'stuck in the two axis of the graphical plane'. The real world workplace deals with complex systems where many variables are at play simultaneously. Economics students may find it disappointing that there classroom theoretical learning is very hard to match with real world multi-variable environment. So the question is - what should be the ideal mix of theoretical treatment of economics and its use in real world setting in classroom learning.

> *"Abstract economic theories did not help me directly in my work placement. However, the economics mindset of analysis and problem solving likely helped me in an area where I knew next to nothing."*
> *"I did an econometric paper on …….…….. Thus, I had to apply much of what I learned in the classroom in order to be successful in my work placement."*

Both the above comments show the importance of classroom teaching of intuitive explanations of economic theory for workplace settings. Classroom delivery of economic theories should always emphasize on the intuitions used behind each models besides teaching the math behind the models. There is a common complaint from undergraduate economics students that they often get lost in the mathematical maize of economic theories and models. Math used in economic models often just becomes a means of solving the model and loses the goal of its use as a language. Many professors do not teach the intuitions behind the use of the math as a language. But this intuitive economic skill is one of the principle skills learnt by economics students that they can use at workplace. It is summarized by the following comment-

> *"The intuitive thought process has allowed me to organize and prioritize in problem solving to create efficient conclusions that produce the best solutions. During the placement the critical analysis was possible because of the structured process of thinking that I had learned in my various economics courses."*

Another trend of modern economics literature is that it is filled with economic modeling. Students learn wide range of models in different fields of economics and learn to solve problems using mathematical and numerical models. The rigor of these modeling may not always be needed in economics jobs. Most economic jobs will need the thought process in economic modeling and often the numerical aspect of it, but will avoid the rigor of mathematical modeling.

> *"Policy making includes many other considerations outside the realm of economic theory and is more complicated than in controlled theory environments where assumptions hold true."*

Economic classroom teaching should remember to balance between technical aspects of mathematical modeling and the intuitive aspects behind it. Application of the models in real world problems should also be emphasized.

Also many of the theories in economics provide single explanations and solutions to a problem. In real world problems, there are mostly multiple solutions available and often desirable. If the economics graduates have the one track mind-set, they cannot cope well in the workplace where multiple solutions are desirable. Students should be made aware of this fact in classroom learning.

Connecting Theory to Policies

Most discipline specific jobs for economics students require them to connect theories learnt in the classroom to apply in policy analysis. The following two comments explain the importance of connecting theory to policy.

> *"The various theories in the study of economics allowed me to practically analyze the thinking process of decisions and administrative organization in a real world setting. The Macro and Micro level understanding of decision making in business, government and other sectors of society has helped me to think in both a narrow and broad mindset in problem solving."*

> *"In understanding the different presentations by members of AB Environment and seeing some presentations done for real-world - a strong background in economics was essential to understanding the technical aspects of the work and even more importantly in the discussions that followed. To critically evaluate and ask intelligent questions on the material a previous understanding of the underlying economic principles was critical."*

Classroom teaching of economics even in the core subjects should keep this workplace requirement in mind and include policy discussions for all topics covered in the class.

> *"Policy must reflect more than just theory. It is multifaceted and does not always reflect the best economic decision."*

Importance of Generic Skills

Generic skills comprise of – analytical ability, team-work, communication, independent learning, leadership, independent problem solving, adjusting to work culture, writing skills etc. Students at workplace described the importance of generic skills and how they acquired the skills.

> *"The Classroom setting and Program of study allowed me to develop many of these generic skills. Some professors allowed us the opportunity to be challenged and develop these skills as a result. Outside of the classroom the Grant MacEwan allowed me to participate in creating and implementing new programs which fine tuned many of my generic skills."*

> *"Basically everything we have done in college. Quizzes, exams, studying at home, essays, reports, presentations, group projects, individual projects…etc strengthened our skills in many aspects including generic skills. Some other students chose to be more active and involve out-of-classroom activities. Many of them participate in campus functions and students associations."*

So generic schools are achieved both from classroom teaching and out of class campus activities.

Generic skills are needed in every job. The intensity and use of these skills vary between jobs, but some of the skills are crucial for economics job. Analytical ability, independent learning and problem solving, writing skills and communication are most important generic skills needed for any economic analyst job. Economics course evaluation system should focus on building these skills through variety of methods like individual and group paper writing, presentation, numerical and real world problem solving etc.

But as discipline specific professors often may not have enough technical expertise to teach many skills such as writing skills, programs should include writing skill courses at early years. Well funded and

resourced writing help centers should also be important components of campus educational experience. Students achieve generic skills not only from classroom experiences. Besides, all universities should invest creating enough non-classroom activities that can match diverse student interests and meet the goal of achieving generic skills.

> *"Policy making includes many things outside the realm of economics, and in my opinion ……..…..the exposure to many issues outside of a classroom is fundamental to developing those needed skills."*

Economics jobs also need the generic skill of evaluation and critique of writings of others and writing reports and papers for non-economists and general public.

> *"When creating policies I had to focus on who the audience was and how they would receive my recommendations."*

Economics students often do not learn this skill from economics classrooms. More use of self and peer marking of research work in courses may provide this skill for students.

Generic Versus Discipline Specific Skills

The right mix between generic skills and discipline specific skills varies widely based on job type, position and field. When economics graduates end up in different non-economic jobs, generic skills will supersede discipline specific skills. On the other hand, economics jobs will need more discipline specific skills. Also generic skills like leadership, team work, communication may be more needed in non-economic jobs, whereas, generic skills like critical thinking, independent learning are more needed in economics jobs. Classroom teaching cannot emphasize one over the other, but should make sure that all these generic skills are obtained by economics graduates besides the discipline specific skills.

> *"General skills are important in every workplace and I have gained from many experiences external from my economics classes but a combination of general and specific skills were essential for this placement and in working in this field in general from what I observed."*

Qualitative Data Analysis Skills

Economics as a discipline does not emphasize on qualitative analysis. But availability of data in real world workplace is often very expensive and complex. Lack of data leads to qualitative analysis on many issues at workplace.

> *"I did not really do any quantitative analysis in my project but all the suggestions would need the numbers that had yet to be collected, calculated and analyzed. Most, if not all, of my experiences in the workplace were with qualitative analysis."*

> *"The research component did not have as much empirical research analysis as I had expected. The research required and performed was qualitative in nature."*

Economics graduates need to receive qualitative analytical skills either from discipline courses or from non-disciplinary courses.

Quantitative Data Analysis Skills

The main difference of economic graduates with other social science graduates is their ability to crunch data. Though qualitative analytical skills are needed, but economics graduates are expected to have the numerical analytical capability.

"Quantitative analysis and qualitative analysis are best understood when considered together. The value that each brings is unique and when considered separately can produce very different results. In the workplace, quantitative data gives validity to research and results while qualitative results provide analysis that can explain linkages between issues."

Econometrics is the specialized data analysis course that differentiates economics students. One basic problem of many undergraduate econometrics courses is often those emphasize too much on proof of theories and not explaining how, why and when to use those theories in numerical analysis. The field courses also should use data analysis and numerical papers as important components of each topic.

Inter-Disciplinary Character of Workplace

Unlike other social science courses, economics as a discipline lack inter-diciplinarity. Economic theories abstract from the real world complex system and are built upon assumptions and restrictions. Complex system design is avoided in economics. Inter-disciplinary journals are ranked low in economics. Classroom courses also do not provide inter-disciplinary analysis and viewpoints on policy issues. But workplace projects are mostly inter-disciplinary in nature. Colleagues from different disciplines contribute in the projects and bring perspective from their own discipline expertise.

"The importance of inter-disciplinary approaches to a work setting is fundamental in analysis and producing conclusive results. In the classroom the multi-disciplinary approach is included in the discussion of analysis and is critical when providing analysis for problems."

"The work placement combined politics, economics and biology. It was important to have an understanding of all those areas in order to be productive in the workplace."

"Although we were there as economics students to learn about economics in that department we met many people from the same workplace that had no economics background working closely with economics and people with economics background that claim to not use it on a regular basis, it was interesting to see that."

"My degree involved many disciplines and it gave an open minded approach to dealing with the different areas."

The above comments reflect that besides providing discipline specific expertise, economists have to understand different inter-disciplinary concepts and ideas and have to accommodate them in problem solving and policy formulation.

Socio-Political Analysis

Besides workplace being inter-disciplinary in nature, welfare analysis of any recommendations by an economist also goes through the social and political evaluation process.

"Socio-economic analysis was important at coming to the best results as it is more practical. It provided more context and broader scope for critical analysis."

"…… the work done would always be subjected to a socio-political thought process before its application to policy."

So, the economist must look at social and political aspects of any policy recommendations. Economics as a discipline may not provide much socio-political analytical skills. Economics undergraduate students should be advised and directed to take courses from other social science disciplines so that they can acquire the needed socio-political analytical skills.

Undergraduate Versus Masters Degree

Most economist job positions nowadays expect at least a Masters degree in economics.

> *"We did not meet anyone with any less than a masters in their field and I can definitely understand why that is the case as I would not feel comfortable trying to make environmental policy with an undergraduate degree only. Many aspects must be considered when recommending policy including more technical aspects of economics and other factors external to economics itself."*

But many economics graduates may not meet the graduate school criterion and may not receive a Masters degree in economics. The non-economist jobs for economics students will not need the theoretical rigor expected from an economics MA graduate. One solution is the economics honors degree. If the curriculum clearly differentiates in content and rigor between undergraduate economics degree with or without honors options, it may provide the advance training needed for the students who want to pursue the economics masters degree.

Unbiased Policy Making

Policy analysis needs to look at all possible solutions from all points of view and come up with unbiased recommendations. It is the duty of the political decision makers to choose from the recommendations based on the democratic choices of the people. There is a common complaint from other social scientists that economics as a discipline emphasizes too much on profit maximization, and does not teach much about welfare maximization. This may affect the performance of economics graduates in public sector where welfare maximization is more important than profit maximization. Another complaint is that classroom teaching of economics has moved away from positive analysis and is concentrated more on normative analysis. Classroom lectures in economics should teach the students the positive side of the analysis as well as analysis in an unbiased way.

> *"I think the best way to train students in the classroom to be unbiased is for the professors themselves to be neutral. Professors hold a lot of influence over their students and if they express an opinion regarding a certain topic, students may be swayed to that point of view."*

Also the question is whether economics classroom training can prepare students enough to act in an unbiased way while formulating workplace policy recommendations.

> *"It is important to gain experience outside of the classroom in real world settings to reduce bias. I believe that classroom settings do not adequately create individuals that informed enough to make unbiased decisions."*

Welfare economics and public economics should be included in economics undergraduate curriculum as core courses or all field courses should include welfare and public economic aspects of different issues in classroom teaching.

Comparison with Other Social Science Disciplines

In the workplace economics students compete with other social science students for socio-economic analytical jobs. All social science students usually have critical analytical abilities. But they differ in characteristics and dimension. For example, sociology students are expert in qualitative analysis, political science students in political analysis and economics students in numerical analysis. Also sociology students bring a social dimension in analysis, political science students bring a political dimension and economics students bring an economic dimension. Employers know these differences among the social science students and hire different social science discipline students on the basis of specific needs of the job. Often economics students are preferred over the other discipline students if they have additional social and political critical analysis skill set. Classroom teaching in economics especially in field specific

courses should emphasize on enriching students with numerical, intuitive and policy skills incorporating both social and political dimensions of the topics. Careful mix of minors from sociology, business and political science can give economics students an edge over the other social science disciplines.

Miscellaneous

Other than the core courses (e.g. Micro, Macro and econometrics), what are the most essential economic courses subjects needed for today's workplace?

"However, basic micro and macro were not helpful really other than in a general sense."

For most economic jobs, public policy and taxation, cost-benefit analysis and contemporary economic issues courses are needed. Based on their interests, economics undergrads should choose fields to match workplace (e.g. Environment, Health, Monetary, Finance, development, International Trade etc.). There is an increasing trend around Canada not to offer any courses in economic thoughts. But for policy making, students should know about all school of thoughts so that they can work with an open mind. For example, macroeconomics should balance between both Classical or Keynesian schools of thoughts; environmental economics should balance between environmental and ecological approaches etc.

Economists nowadays not only work in domestic public and private institutions. They also work for non-government and international organizations. Many non-government organizations often run by a certain philosophical stand point. Classroom teaching in different school of thoughts may help the students to understand the philosophical differences of NGOs and adapt to the workplace better. Globalization is making the workplaces increasingly globalized. So economics courses should accommodate internationalization of course materials.

In today's world, the workplace is continuously changing with new innovations and techniques. Universities are slow to adjust to this fast changing work environment and lag behind.

CONCLUSION

The discussed issues in the paper are the ones faced by economics graduates not only at work placements but also at workplaces. As employability is one of the principle objectives of higher education, economics programs should focus on addressing these issues in their curriculum even if they are still hesitant to add a work placement component in their curriculum. But increasingly, the debate on how much value is added by an economics work placement program is fading out. The comment by one student perfectly summarizes the need for workplace learning.

"In my opinion, classroom trainings from an undergrad degree are not and shall never be enough for immediate policy making jobs. Experience helps us to make decisions. Therefore, we learned the fundamental theories at school, and we developed them into practical tools and use them to make decisions. Therefore, work placement is a good tool for students, because it gave us a chance to earn real work and economic experience earlier."

APPENDIX

Survey on the workplace experience of MacEwan Economics Students

(The survey is designed following the Griffith Graduate Project survey conducted by the Griffith Institute for Higher Education in Australia. Not all data has been used for this paper.)

1. Did you work before the MacEwan work placement? ……
2. If yes, state the following (if it is more than one job, describe the last three jobs before the placement):

    i. Employer Name:
    ii. Period of Employment:
    iii. Position Title:
    iv. Job type: Part time/Full time
    v. Description of Job Duties:

3. Your age during the placement:
4. Your Gender:
5. Your annual gross income in the year of the placement:

6. What was your motivation to apply for the work placement?
7. What were your expectations from the work placement?
8. What expectations were met in your placement?
9. What expectations were not met in your placement?
10. There are three parts of the following questions – from university, from work placement, from other work. You can provide multiple answers. Rank the answers from 1 to 5 where,

    1: Strongly disagree
    2: Disagree
    3: Unsure
    4: Agree
    5: Strongly agree

10.1 At University	**I had sufficient opportunities to develop the skill of:**	
i. Independent learning		
ii. Leadership		
iii. Independent decision making		
iv. Oral communication		
v. Public presentation		
vi. Problem solving		
vii. Analysis		
viii. Critical evaluations		
ix. Teamwork		
x. Information evaluations		

10.2 At Work Placement	**I had sufficient opportunities to develop the skill of:**	
i. Independent learning		
ii. Leadership		
iii. Independent decision making		
iv. Oral communication		
v. Public presentation		

vi. Problem solving	
vii. Analysis	
viii. Critical evaluations	
ix. Teamwork	
x. Information evaluations	

10.3 At Other Work	**I had sufficient opportunities to develop the skill of:**	
i. Independent learning		
ii. Leadership		
iii. Independent decision making		
iv. Oral communication		
v. Public presentation		
vi. Problem solving		
vii. Analysis		
viii. Critical evaluations		
ix. Teamwork		
x. Information evaluations		

11. If you answered 4 or 5 for the skills i to x in 10.1, which activities of your university life helped you to achieve the skills i to x.
12. Explain in words how the classroom learning of abstract economic theories was applicable in real world setting at work placement in real world problem solving.
13. Explain in words how the intuitive explanation technique of economics discipline helped you at work placement work placement in real world problem solving.
14. Explain in words the difficulties you faced to connect theoretical learning of classroom in policy making.
15. Explain in words the importance of quantitative and qualitative analysis in workplace.
16. Explain in words the importance of inter-disciplinary approach at workplace and how your classroom learning in Economics help to cope with it.
17. Was the classroom experience of undergraduate degree in Economics enough for policy making jobs? Do you think higher level of education was needed?
18. Can economics classroom training prepared you to act in an unbiased way while formulating workplace policy recommendations?
19. How important was socio-political analysis besides economic analysis in workplace.
20. How important was generic skills (explained in question 10) versus discipline specific skills in workplace.
21. Identify the core (e.g. Micro, Macro, Econometrics, Math for Economists etc.) or field specific courses (e.g. Public Policy or Taxation, C-B Analysis, Contemporary Issues, Environmental Economics, Health Economics, Monetary Economics etc.) that were most helpful for work placement and explain why.