Abstract:
Many would agree that lecturers have multiple roles. By the nature of what the term “teacher”, “lecturer” or “instructor” means, the basic job description is that of teaching and learning. For many years, the debate of “teaching vs research” has been going on. Lately, lecturers in universities are given the responsibility to initiate collaborations with the industries. This paper reports a review of literature and past studies on the connection between teaching, innovation, research and also industry. The paper ends with a summary of review revealing the multiple roles of the lecturer. The theoretical contribution of this paper is to provide a conceptual model of the multiple roles of the lecturer in the form of quadrants. In order to gain a “whole”, the lecturer has to achieve all FOUR quadrants. It is hoped that this conceptual model paves the way for a more in-depth study of each of the quadrants of the lecturer.

Keywords: lecturers’ role, teaching, innovation, research, industry

1. Introduction

By nature of the job description, teachers, lecturers, instructors carry out at least one common basic duty and that is teaching. Over the years the job scope of the teachers/lecturers/instructors has changed due to the growing needs of the society. Good teaching methods are still in use -perhaps with many twists to make the methods suitable for the current generation of learners. According to Larsen-Freeman (2000), the concept of principled eclecticism refers to the instructors’ choice of teaching approach. The instructors consider different trends and ideas that have occurred historically and to choose that most fit the needs of particular classroom settings. Eclectic method is a combination of different learning based only on the best part or parts that are beneficial from a variety of teaching, then the weaknesses of a particular teaching method can be avoided. According to Kapur (2021), the instructors need to be well-equipped in terms of various types of teaching-learning methods.

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Teaching can be seen as a form of inquiry on the part of the teachers. According to a report by the Ministry of Education of New Zealand (TKI, 2011), teaching as inquiry is a professional development noted for improving teachers’ learning and to also enhance students’ learning. Teaching as inquiry, therefore, involves discovery, problem solving and research aimed at improving teaching practices. Teaching involves making explorations (Cordingley, 2013; Cole, 1998) on the part of the teachers as well as learners. Teachers explore to make teaching more effective. Learners explore to adjust to learning needs.

In every society, education is important for the growth and development of communities. Education is an instrument of change that can transform the individuals in communities and later transform the communities.

The effect of education can be considered a chain effect (Figure 1). Teachers impart knowledge so learners can be properly educated. The knowledge is then improved through research (Kinchin, Heron, Hosein, Lygo-Baker, Medland, Morley & Winstone, 2018; Basu, 2020). The knowledge is used to improve the community. Graduates need the knowledge to kick off their career in the industry. The industry then helps by inventing more facilities to make life better for the community. Hence, this review is done with the focus on answering the following questions;

1) How do lecturers perceive their roles?
2) Why is innovation important in teaching?
3) Why is research important for lecturers?
4) Why is there a need for universities to link with the community and industry?

2. Literature Review

2.1 Learners and Teaching
Classroom dynamics is comprised of few related factors. According to Rahmat (2018), in order to make classroom teaching and learning effective, the teacher/researcher needs to understand (a) the learner, (b) the learning process to be used in the classroom, and also (c) the learning situations and strategies used (Figure 2).

![Figure 2: Tenets for Effective Teaching and Learning in the Classroom (Source: Rahmat, 2018)](image)

However, different views of teaching can influence the learning environment in different ways. According to Dreon (2017), learning can take place when the teachers use all these three views. The first view is (a) Teacher as transmission where the instructor is in the centre of the learning process. Teaching as transmission reflects more behaviourist learning theories and learning takes place using the concepts of S-R; stimulus and reward system. Next (b) the Teacher can be viewed as Transaction. Teaching as transaction is rooted in more constructivist perspectives. Here, learners build their understanding of content by interacting with activities and through social meaning-making processes with their peers and their instructors. According to Sukimin, Rahmat, Mok, Arepin, Zainal Abidin, and Haron (2021), learners’ motivations toward learning can further be enhanced when they feel connected to the content of the course and the environment in which the content was taught. Instead of delivering information (like teacher as transmission), instructors work to plan experiences that can help their students learn and work with them to foster their understanding—they facilitate learners’ interaction with (i) The content, (ii) Their peers, and (iii) The instructor. The last view of (c) Teacher as transformation. According to this view, the teacher helps students grow as learners and...
individuals. Teachers who transform practice the culture of “teaching as inquiry”. This is the environment where teachers improve their teaching through informed evidences pedagogies. This can be done by the teacher actively creating innovations to enhance their teaching professionalism.

2.2 Innovation in Teaching
Innovation in teaching is needed because of the growing needs for knowledge. Nevertheless, teachers may be faced with some barriers when planning innovations in teaching. The barriers can come from the teachers themselves (who need to update their knowledge through research), institutions, or even the learners.

![Figure 3: Innovation preparation in Teaching (Source: Rahmat, 2020)](image)

According to Rahmat (2020), when planning innovations in teaching, teachers must be prepared for many factors. With reference to Figure 3, when the learning environment is faced with more barriers in learning, the teacher needs to intervene to provide more facilitating factors to learning can take place. The intervention can be facilitated with the creation of a teaching-learning environment. In order to this, the teacher needs to come up with innovations to maximise learning from teaching. The innovation needs to be shared for other educators to be aware of through research and publication.

2.3 Research & Publication
2.3.1 Research
Teachers need to increase research activities because of the learning environment that millennials prefer. According to Laskaris (2015), millennials respond well to the type of learning that involves the Five R’s (Figure 4).
Firstly, learners need to see the (a) relevance of what is taught to them before they can proceed to learn. They need to see how the new knowledge can be useful in their lives. Secondly, society’s way of life has influenced the way learners perceive their learning environment. They need to be in a (b) relaxed and non-threatening environment when they learn. Next, learners would question the (c) rationale of learning or doing what they are told to do. Millennials are social people; so, they need to create a rapport to be able to learn and communicate with their instructors. Finally, the concept of “see-to-believe” can be proven by making sure what or how the content is taught is (e) research-based.

2.3.2 Publication
Teaching and research are two inter-related academic practices that teachers in higher institutions should participate in. Scholarship means engaging in the original research. In addition to that, the work of a scholar is to reflect, look for connections, build bridges between theory and practice and then communicate that knowledge efficiently. A teacher/educator/instructor/lecturer needs to achieve the “scholarship of teaching and learning” (SoTL). In order to achieve SoTL, the educator needs to perform 4 separate, overlapping, functions. They are the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching (Figure 5).
According to Fanghanel, et al. (2016), there are 3 features to gain scholarship of teaching and learning and they are;

1) Grounding the work in discipline-specific and pedagogic knowledge and research, normally through engagement with the literature
2) Analysing the practice through critical reflection on your teaching and the learning of students
3) Disseminating the outcomes of SoTL work for peer review and public scrutiny in order to further develop it. This can be done through research and publications done by the educators.

2.4 Benefits of Collaboration between universities and industry and community
The collaboration between universities with industries and communities provide a variety of benefits. According to Di Maria, De Marchi and Spraul (2019), the collaborations allow knowledge transfer to take place. Knowledge is transferred both ways; from the universities to the industries and communities as well as from the industries and communities to universities.

Rybnicek and Königsgruber (2019) reported that there are three distinctive elements involved in the collaboration between institutions with the industries. The elements are (a) institutional factors. They added that institutions need to flexible and be willing to change to suit the needs of the partner industries to improve the community. Next, institutions need to have positive relationship factors. Institutions need to have honesty when comminating with their partners to maximise the collaboration efforts. Only when the first two factors have been achieved, then the collaboration can achieve the desired (c) output factors. This will further facilitate more knowledge and also technology transfer.
2.5 Past Studies

2.5.1 Past studies on Teaching and Learning

The discussion of teaching is related to the discussion of learning. This cyclical process of teaching and learning (Figure 6) starts with teaches plan on (No 1) classroom ideas to make sure their teaching is effective. Effective teaching is then improved through (No 2) research and (No 4) innovations and goes back to No 1 of classroom ideas that has been proven effective for the benefit of the learners.

The study by Burroughs-Lange (1996) and Ibrahim, Mohamad, Mohd and Mohd Shahrom, (2013) explored lecturers’ perception on their concepts their roles of lecturers. The study also investigated their perceptions of the learners, their sense of responsibility towards their students and to their own professional knowledge field. Their findings revealed that lectures understood their multiple roles. They need to perform their roles in (a) teaching and learning, as well as (b) improving themselves professionally. As far as (a) teaching and learning is concerned, lecturers are aware of their roles to improve their area of expertise, improve their knowledge on the curriculum, the use of instructional materials, and also in the assessment of learning. Next, as far as (b) improve themselves...
professionally, they need to have knowledge of educational psychology, conduct research as well as collaborate with the community.

The study by Muda, Samsudin, Majid, Mohd Ali, & Ismail (2011) investigated students’ evaluation on the learners’ characteristics that influence effective teaching at the Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi. They explored on learners’ evaluations on the lecturers’ preparation, teaching styles and responsibilities. The Analytical Hierarchy Process (AHP) as a ranking method was used in this study to ensure that the main factors can be identified based on the weights. From the analysis, the main factors in AHP are arranged in decreasing order; preparation, followed by the style of teaching, and finally responsibilities. Findings showed that learners emphasises on teaching styles and responsibilities of their lecturers.

2.5.2 Past Studies on Research and Publication

Next, Procter (2013) explored an approach to teachers’ use of research knowledge to help inform their practice. This approach involves a web-based knowledge management system for teachers that will support their professional development. Specifically, this study looked into research practices used by teachers. A questionnaire was used to collect data. Findings revealed a consistent gap between how much teachers value the use of research and how much they used research in their daily practices. This study gives some useful insights into the debate surrounding practitioners use of research in schools.

Di Maria, De Marchi, and Spraul (2019) conducted an exploratory study an original data set of more than 350 U-I research and consultancy contracts signed by more than 70 professors specializing in environmental sustainability-related academic disciplines at the University of Padova (Italy) for the period 2008-2012. A mixed-method approach is adopted. Social network analysis and regressions are used to explore the impact of U-I on performance considering for characteristics of the firms, the professors and the collaboration. Interviews with key informants at University of Padova is used to complement and validate the evidence that emerged.

Firms’ financial performance is positively associated with U-I collaboration focused on knowledge transfer for environmental innovation; the higher the contracts activated the better the economic performance.

3. Discussion

This section discusses the review of literature and past studies by answering the questions presented above.

Question 1: How do lecturers perceive their roles?
Lecturers have to be responsible for the (a) learners and (b) their professional advancement (Figure 7). According to Rahmat (2018), effective teaching should take into consideration (i) learners’ strategies, (ii) learners’ learning process and also (iii) the learning environment.
In addition, as professionals, lecturers act as agents of transmission to convey knowledge. Next, lecturers are also agents of transactions as they facilitate learners’ interactions with the content, with their peers and their instructors. Finally, lecturers are also agents of transformation. In order to be good agents of transformation, lecturers need to instill the value of SoTL-scholarship of teaching and learning (Institute of Academic Development, 2017). This value calls forth for lecturers to practice inquiry of teaching where they constantly make efforts to upgrade their teaching.

**Question 2:** Why is innovation important in teaching?
Innovation is important because learners’ needs keep changing over the years. To cope with the changing demands of learners, teachers need to be creative in disseminating their knowledge and this comes in the form of innovations on the part of the lecturers. In addition to that, according to Rahmat (2019), learners may come with may needs that hinder effective teaching and this is where teachers need innovation in their classrooms. Interestingly, the barriers faced by learners and the availability (or lack of it) can push educators to have innovations in their teaching in order to maximise learning. In order to upgrade their scholarship of teaching, lecturers need to keep abreast with more research-based methods to cope with the changing needs of learners.
Question 3: Why is research important for lecturers?
Learners’ needs are constantly changing over the years. According to Laskaris (2015), millennials respond well to five types of learning—the 5 R’s and especially the ones that are research-based. These curious learners need to know that whatever they are asked to do/learn is supported by what the experts had to say—research-based. In addition to that, according to Fanghanel, et al. (2016), if lecturers want to increase their scholarship of teaching, they need to ground their work in discipline-specific and pedagogic knowledge. This can best be done when they embark on research. Next, lecturers are also encouraged to disseminate the outcomes of SoTL work for peer review and public scrutiny in order to further develop it. This can be done through research and publications done by the educators.

Question 4: Why is there a need for universities to link with the community and industry?
Collaborations between universities and industries allow the exchange of knowledge to take place for the betterment of the community around them. Both De Marchi, and Spraul (2019) and Rybnicek and Königsgruber (2019) emphasise on the knowledge transfer that could benefit both ways—from universities to industries and from industries to universities. This knowledge can then be further researched on to improve the conditions of the community.

4. Conclusion

4.1 Summary of review

| Quadrant          | Heading                | Citation                                      |
|-------------------|------------------------|----------------------------------------------|
| First             | Teaching               | Rahmat (2018)                                |
|                   |                        | Institute of Academic Development (2017)     |
| Second            | Innovation             | Rahmat (2019)                                |
| Third             | Research & Publication | Laskaris (2015)                              |
|                   |                        | Fanghanel, et al. (2016)                     |
| Fourth            | Industry & Community   | De Marchi, and Spraul (2019)                 |
|                   |                        | Rybnicek and Königsgruber (2019)             |

Table 1 compiles the review of literature about the multiple roles of lecturers. The role in (1) Teaching is supported by Rahmat (2018) and Institute of Academic Development (2017). Next, the role in (2) Innovation is supported by Rahmat (2019). The role in (3) Research & Publication is supported by Laskaris (2015) and Fanghanel, et al. (2016). Finally, the role in collaboration with the (4) Industry and Community is supported by De Marchi and Spraul (2019) and Rybnicek and Königsgruber (2019).
4.2 Conceptual Framework

Figure 8: Conceptual Framework for Lecturers’ Multiple Role: Lecturers’ Quadrant
(Source: Rahmat, 2018; Institute of Academic Development, 2017; Rahmat, 2019; Laskaris, 2015, Fanghanel, et al., 2016; De Marchi, and Spraul, 2017 and Rybnicek and Königsgruber, 2019)

Figure 8 reveals the conceptual framework showing the multiple roles of the lecturer. It is in the form of FOUR quadrants. In order to gain a “whole”, the lecturer has to achieve all FOUR quadrants. It is hoped that this conceptual model paves the way for a more in-depth study of each of the quadrants of the lecturer.

Conflict of Interest Statement
The author declares no conflicts of interests in the subject matter or materials discussed in the manuscript.

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REVISITING LECTURERS' ROLE: TOWARDS A MODEL OF LECTURERS' QUADRANTS

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