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Knowledge, Attitudes, and Growth among University Professors

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Abstract: ***Universities are under constant and intense strain because of the dynamic nature of societal demand and progress. When it comes to providing economic, ecological, and sustainable solutions, the issue is whether or not HEIs produce graduates with the competencies to do so. Higher education institutions (HEIs) also have a responsibility to ensure that their students are adequately prepared for careers in today's increasingly complicated, rapidly changing, and multidisciplinary job market. In order to meet this challenge, universities need faculty members with a wide range of skills, dispositions, and levels of professional development in the areas of instruction, study, and service. Sadly, teachers don't have a good grasp on whether or not their students are prepared to thrive in today's interconnected and multicultural world. Consequently, this investigation employs a sequential mixed-methods approach to explain how professors' skills, outlooks, and training shape their classroom instruction and their students' academic growth in higher education. The professors have higher opinions of their own abilities and character than the students do. Untenured lecturers, according to faculty representatives, have a superior disposition and skillset than their tenured counterparts. One-third of professors have met at least one of the research advancement requirements. When compared to students in the social sciences and engineering, those majoring in the biological sciences had a higher level of satisfaction with their instructors and the growth of their skills. Knowing how characteristics like aptitudes, attitudes, and professional growth are likely to affect the quality of instruction and student outcomes is crucial for developing and implementing effective educational changes.***

Keywords: Higher Education, Aptitudes, Attitudes, and Professional Growth.

1. INTRODUCTION

Many changes have occurred in the higher education sector. This has necessitated colleges adapting to adjustments mandated by government agencies as well as those desired by a globalized society. Because of these issues, universities have anticipated the need to align themselves with these developments and make internationalization of the institution one of its key goals. Three things have primarily influenced what defines excellent education across the

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globe. First, there is the internationalization of higher education institutions (henceforth HEI); second, there is the expanding scope of educational fields and changes to graduate profiles; and finally, there are technological advances that quickly render established methodologies and educational content obsolete (Anafinova, 2020). As a result, HEIs have been undergoing adjustments in order to suit the expectations of both government bodies and a globalized world. The study's goal is to find out how Professor aptitudes, attitudes, and professional growth affect students' education in relation to their graduate profile.

Literature Review

Competence

In education, competency is a noun that refers to "the knowledge, skills, and aptitudes necessary to do a certain activity" (López et al., 2019). This collection is also required for independent professional performance and problem solving (Donia et al., 2018). According to (Barr, 2018), we may further expand this description by include underlying motivations and ideals. The purpose of this classification is to provide educators a framework for guiding students toward the development of their desired graduation profiles, learning outcomes, and competencies in terms of skills, knowledge, and material based on their chosen course of study. According to (López et al., 2019), generic competencies are further broken down into instrumental competences that deal with linguistic, cognitive, information management technique, problem solving, decision making, and technical capabilities. Second, social skills, the capacity to work with others, self-awareness, and morality/critical thinking. Finally, we have systematic competencies, which refer to talents including the integration of information and its application in the real world.

In addition to the described skills that have been established that; i. Instruction should be geared toward what future professionals will need to use in the job. Educating the public on the need of investing in the education of tomorrow's workers so that they may achieve global parity in their fields. iii)A teacher's competencies, which include his or her knowledge, skills, talents, aptitudes, attitudes, and values, make up the teacher's profile. Factors from the home, the school, the community, and the economy and society all have an impact on a student's academic success (Bragg et al., 2021). Thus, it is necessary to define the subcategories of aptitudes, attitudes, and professional growth for the purposes of this research.

Aptitudes

An aptitude, as defined by (Brinkley-Etzkorn, 2018), is a unique ability that goes beyond basic intelligence and is necessary for success in a certain profession. According to studies, a lecturer's ability is a major factor in the success of the teaching. Similarly, "aptitude is something which occurs naturally," according to the biological concept, is regarded as the best explanation. When we talk about a person's innate skills, we're talking about what's written into their DNA. Moreover, research on the personal traits shared by highly effective educators demonstrates a favorable connection between natural talent and pedagogical achievement. According to the notion, an aptitude may be seen as a predisposition toward a certain skill set that develops with time.

Attitudes

(According to recent research (Lee et al., 2019), a person's attitude determines whether or not they act favorably or negatively toward another person or an item. Attitudes, as shown by

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research, are dynamic in nature, meaning that they may change over time as a result of exposure to new information and new experiences (Arrosagaray et al., 2019). Professional development procedures are less effective when people have unfavorable attitudes toward change and growth. However, these negative attitudes sometimes result from a misunderstanding of why certain changes are being implemented (Fleaca & Stanciu, 2019). According to (Lim, 2018), the degree and kind of motivation a person feels may be influenced by the structures of the institutions they frequent. Findings from this research imply that a more optimistic outlook promotes transformation and increases the effectiveness of faculty development initiatives. Attitudes may shift throughout time, either positively or negatively, depending on the circumstances or the individual involved. Also, Morales (Rodrguez et al., 2020) discovered that students' accomplishments and attitudes are influenced by both cognitive and affective characteristics, suggesting that the more emotionally intelligent a kid is, the more driven he or she would be to do well in school.

Professional Development

One of the cornerstones of a well-functioning classroom is the continual improvement of Professor skills via professional development (PPD) (Gawrycka et al., 2021). According to the authors (Colombo & Piva, 2020), professional and institutional development (PPD) should be an organic, self-directed process. Iglesias-Pradas et al. (2021) note that PPD is concerned with how one's perspective of his place in the workplace affects his well-being. Students' academic success may be affected by a number of factors, including those outside of the classroom (Xie et al., 2020). Also stress the need of lecturers being able to raise students' awareness about the importance of teaching future professionals to worldwide standards (Bragg et al., 2021). Higher education lecturers, in contrast to K-12 educators, have additional responsibilities, such as research. After weighing the pros and disadvantages of doing well in college, a focus group of students came to the conclusion that not having PPD was holding them back. Taking into account some of the aforementioned statements, the professional competence of lecturers to the present study concerns the capability to engage in permanent training process and the dedication of time to do research not only for fostering learning but for achieving academic promotion since it plays an important role in meeting international research standards. In spite of this, HEIs, in an effort to incentivize faculty members' professional growth, have fostered a competitive climate that has a chilling effect on the quality of their teaching. More and more institutions, according to (Campos et al. 2021)'s analysis, believe that pay and promotion policies for academic staff are misaligned with the demands of society. In a similar vein, (Frandsen et al., 2022) polled 60 undergraduates to investigate their views on evaluation, advancement, and tenure (RPT). The lecturers questioned placed the most weight on total annual publications and journal name recognition when evaluating RPT. Even though the Journal Impact Factor (JIF) is supported in RPT assessments at research-intensive institutions in the country, (Farsani et al., 2021) note that more has to be done to prevent the JIF from being abused. Therefore, (Register & King, 2018) advocate that HEIs lessen incentives to publish in highly regarded, established journals. In conclusion, HEIs should think about how, despite the importance of research to education, teaching methods are equally an essential part of higher learning.

When it comes to revisiting the concept of skills, the subject-specific competency is the one most closely associated with the capacity to learn. These skills are essential for students to develop in both their professional and formative profiles since they may be used in a variety of

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contexts and help them become productive members of society. (López et al., 2019) adds that one's subject-specific competence is grounded in their ability to use their knowledge and expertise in the context of their role and responsibilities.
According to (Xie et al., 2020), students' academic achievement is a key measure that allows for a realistic assessment of the state of higher education. Therefore, there are worries inside the universities about how professors and students will react to the changes. In light of these suppositions and assumptions, this research aims to add to the body of information about how the expertise, outlook, and professional growth of university professors affect classroom instruction and student outcomes.

2. METHODOLOGY

Focus

Since quantitative data complements qualitative data gathering, this research used an explanatory sequential mixed-methods approach to collect, analyze, and interpret a broad variety of data from professors, students, and faculty representatives.

Sample and Data Collection

Undergraduates, postgraduates, professors, and members of the faculty make up the diverse group of participants. Data were acquired retrospectively from a questionnaire filled out by 2,200 students and 1,750 professors at the institution. The professors were asked to evaluate themselves and were rated by the students. Data for the years 2018–2021 school year. There were a total of 1,200 students who participated in the study, 300 of whom were majoring in biological disciplines, 450 in the social sciences, and 450 in engineering (sample taken from the term March to June 2020). Finally, a qualitative interview was conducted in July 2020 with 10 out of 13 faculty representatives.

Instruments

A faculty assessment survey, an undergraduate survey, and an interview with representative faculty members were used to gather data.
The University Evaluation Office's questionnaire for grading professors was the first measuring stick put to use. The authors claim that this questionnaire has adequate contemporaneous, predictive, and inter-observer validity, as well as a reliability of >0.81. Twenty questions out of the original 75 were used to compare data on instructors' self-evaluations since they were directly connected to the topic of this research (20 questions: two related to aptitudes, two related to attitudes, and 15 related to professional development). Lecturer evaluations from students were also included (four questions: two related to aptitudes and two related to attitudes).
The second tool used was an online survey with 20 questions designed and administered to undergraduates by the study team to collect data on students' educational backgrounds in relation to their graduate profile. An EFA was used on the survey to determine its reliability and validity. This method resulted in a questionnaire with just 13 items and a Cronbach's Alpha of.914, which is the statistical equivalent of a reliability level of "very high" (Ghadimi et al., 2019). The value of the Kaiser-Meyer-Olkin KMO was 0.918, which is considered to be of "good" quality, while the significance level of the Bartlett's test of sphericity was 0.000. The total variance matrix described with two components explains 59.08% of the variance, which is regarded appropriate for determining the number of factors to be extracted (Leong et al.,

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2020). A "Maximum Variance" orthogonal rotation procedure was used to extract the factors, with a factor load of more than.51 being preferred on the assumption that all factors may be treated as independent. Taking into consideration the influence of the students' age, the partial correlation coefficient was computed to evaluate the construct's validity (Leong et al., 2020), and no effect was discovered.

Based on the interpretation of factors that suggests a theoretical and inductive factor name, a questionnaire has been developed for students consisting of six questions for the first dimension and seven items for the second dimension to reveal factor load (Schreiber, 2021). Items measuring students' "general satisfaction" with their academic profiles can be found in Dimension 1, while those measuring students' "competence growth" in their professional profiles can be found in Dimension 3.

Table 1. Principal Components Analysis Extraction

Dimension		
	1	**2**
I believe that I am now equipped with the information necessary to address real-world issues.	.425	.529
Preparatory work is a good indicator of what I should be doing in my actual career.	.160	.829
My academic preparation has been bolstered by my participation in relevant extracurricular activities.	.165	.869
There is background information provided for the issues the subjects discuss.	.273	.648
Employment trends influenced my choice of major and subsequent education.	.322	.642
The students who have completed my program have the necessary skills for success.	.413	.638
Professionals who have completed my course have high moral standards.	.466	.585
This is a field of study that I would pursue once again at a university if given the chance.	.524	.461
The faculty here are ready to provide me with a solid education.	.805	.275
The knowledge I've gained from my teachers has helped me tremendously in my career development.	.774	.346
The education I've had from the lecturers has prepared me enough.	.776	.286
Professors often have the most recent information on the topic.	.813	.314
The most influential educators in my life are those who have earned the greatest levels of academic degrees.	.542	.216

The study team also developed and used an interview with faculty representatives as their third instrument. There were a total of 10 questions: 3 concerned Professor knowledge, 1 their professional habits, 3 their career paths, and 3 their outlook on the teaching profession (Table 2). Expert comments were sought for when developing the questionnaire to guarantee the validity of qualitative analysis.

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Table 2. Questionnaire for Interviewing Faculty Representatives.

Categories	Questions
	How well do the concepts you're covering in class align with the expectations set out in the typical graduate's profile?
Professor knowledge	How much more theoretical or practical growth does a graduate have?
	How did they choose what to teach in the study programs?
Professor professional practices	When thinking about a student's post-undergraduate life, what factors, outside pre-professional experiences, should be considered?
	How current do you find your school's professors to be?
Professor professional development	How does your institution encourage the professional growth of its teaching faculty, and do you feel that the training given to lecturers is both relevant and adequate for preparing students for the workforce?
	How much of an effect do professors' prior experience and education as well as their current research that they share with students have on their education and development?
Professor attitudes towards teaching	Is there a problem that instructors have encountered with their classes? Is there a difference in approach between untenured and tenured professors, and how have these problems been addressed by faculty representatives?
	How would you rate the level of friendliness between your school's instructors and students?
	Can we measure the effect that the pressure to advance as a teacher has on classroom results?

Analyzing of Data

It should be noted that the surveys utilized in this research come from not just one, but three separate databases (see methodology section). In this way, the outcomes may be understood by correlating quantitative and qualitative data. SPSS was used to analyze students' descriptive data on their abilities, perspectives, and career growth at universities (George, 2019). Since the data did not follow a normal distribution, the non-parametric Mann-Whitney U test was used to evaluate the Professor and students' perceptions of the quality of their instruction. Two, using Kruskal-Wallis one-way analysis of variance to find commonalities and distinctions across the social sciences, the natural sciences, and the applied sciences like engineering. Faculty members' perspectives on students' aptitudes, attitudes, and professional growth were qualitatively assessed; to protect confidentiality, made-up identities were employed throughout the interview process.

3. RESULTS

Professor Attitudes

An item on the self-evaluation and student-evaluation questionnaires focused on how responsive lecturers were to their students' needs and interests. The question uses a Likert scale from 1 to 5. Both professors and students give themselves an average score of 5 (standard

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deviation = 0.5) on the rating scale. There is a clear gap between the two groups here. The interaction between teachers and students was also a topic of inquiry. There was a statistically significant disparity between the self-average evaluation's score of 6 (SD=0.17) and the student evaluation's average score of 5.5 (SD=0.33). On the basis of these questions, professors are certain that their students have a fantastic outlook, while student's express skepticism.
Most faculty representatives responded to an interview, therefore data on how lecturers feel about teaching was gathered. The majority of the faculty members agreed that the teachers had a positive rapport with the pupils and with one another. It was noticeable, however, that there was a difference in "attitude" between contract teachers and tenured professors. Since their ultimate goal is to earn tenure, the untenured faculty are open to teaching in any department and working with any research group. However, after they are tenured, they are seen as devoting more time to research and administration than classroom instruction.

Professor Aptitudes
There are two items concerning instructors' abilities on the self-evaluation and student-evaluation questionnaires. The first inquiry concerns the instructional resources (whiteboard, AV, Internet, models) that supplement the teaching and learning process. While professors reported using the content "always" (Mean=4.81, SD=0.29), students reported using the content "nearly always" (Mean=4.58, SD=0.33). It's clear there's a big gap there, statistically speaking. The second inquiry has to do with whether or not the lecturers are using relevant and current sources in their presentations. To hear it from the professors themselves (Mean=4.89, SD=0.29), their citations are always spot-on and well researched. On the other hand, the student version indicates that this does not always happen (Mean=4.51, SD=0.31), and this is a statistically significant difference. In conclusion, professors frequently give themselves greater ratings than their students give them.

Professor Professional Development
When asked about opportunities for professional growth, all delegates from different schools' faculties said that trainings in teaching had been established to help boost Professor reputations in the field. Schools' financial backing of faculty members' attendance at conferences, participation in teacher education programs, and pursuit of doctoral or postdoctoral degrees all fall under the rubric of "professional development." Schools have aid programs in place for professors with tenure, but support for lecturers on contract is far more limited.

Competence development
The findings are shown after a transformation of factors was performed, which included adding the items that pertain to each component. The average score on the professional profile's competence development dimension was 18.64 (STD = 4.43). Scores over 22 represent the top quartile of the distribution (the 81st percentile), scores between 17 and 23 represent the middle ground (percentiles 26 to 74), and scores below 17 represent a poor rating (percentile 26 or below).

General satisfaction
There was an average of 17.76 on the overall satisfaction scale with professors (standard deviation = 4.16). In the scoring distribution, a score of 25 represents the 81st percentile,

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representing the top ten percent of results. For example, a score of 14 is considered a poor appraisal in the 26th to 74th percentile, while a score of 21 is considered to be above average.

4. DISCUSSION

Teachers believe they have the best teaching aptitudes and dispositions, while students tend to disagree. In order to provide students with an excellent education, professors must have the necessary expertise in both classroom instruction and academic research (Muthuprasad et al., 2021). Positive interactions in the classroom are a product of the teacher's and students' attitudes, research shows (Behzadnia et al., 2018). However, research suggests that the lecturer-student interaction plays a preponderant role in students' satisfaction with their classes and even with their HEIs (Yekefallah et al., 2021). This is because, as (Lim, 2018) points out, Professor positive attitudes stimulate effective university performance.

Representatives from the faculty have said that untenured lecturers have superior attitudes and abilities because they want to get tenure and the associated job security and rewards. According to research, adjunct professors had less worries about their futures in the field, while facing more scrutiny in their evaluations and higher standards of performance. A common misconception is that untenured professors are more committed to their teaching and administrative responsibilities and have less political clout than their tenured counterparts.
When educators share their knowledge and expertise via research, students benefit from a wider range of lessons (Watts, 1985). However, we found that some people believe the school approaches research with the goal of publishing for career advancement rather than as a means of bettering classroom instruction. For career advancement, professors care more about journal reading, reputation, and associated measures than about the overall number of papers produced annually (Frandsen et al., 2022). According to (Farsani et al., 2021), several academic institutions advocate using the JIF while conducting RPT assessments. According to research by Moher et al. (2018), more and more schools are of the opinion that the current system of faculty incentives and rewards is misaligned with the demands of society.

Faculty members claim that government academic standards emphasize professional growth, research, and the attainment of higher academic degrees as key aspects in education, despite the fact that these honors do not always lead to improved teaching methods. Evidence from other studies suggests that research does have a role in preserving the standard of education. What's more important than how much research professors undertake is their genuine enthusiasm for both teaching and research, which may help to foster a culture where both are valued. It's possible that while discussing the difficulties they're having with HEI changes; faculty members may incorrectly point the blame onto research. Register and King (2018) argue that RPT policies should be rethought such that they more accurately reflect Professor work habits and there is less of an emphasis placed on publishing in prominent, established journals.

Students majoring in biology at university report greater levels of growth in their graduate profile competency and overall happiness than their social science and engineering counterparts. Some research, however, shows that students majoring in science and engineering are less content than their social science counterparts. Satisfaction among college students is a

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complex phenomena that stems from a wide range of factors. Students are the lifeblood of universities, making student satisfaction with their academic experience a key metric for measuring the quality of a school overall. As a consequence of following one's calling in life, a person experiences academic overall satisfaction, which increases their motivation to work in their chosen field. Positive expectations about the outcomes of being a university student, including the promotion of social support networks, are also common among students who report high levels of academic general satisfaction and progress towards academic objectives (verko & Babarovi, 2019). According to research (Santos et al., 2020), dissatisfied students might lead to negative outcomes including dropping out of school or filing formal complaints against the university.

5. CONCLUSIONS

Most professors have higher estimates of their own abilities and character than their students do. However, members from the faculty have divided professors into tenured and untenured groups, finding that the latter had a more positive outlook and greater ability to teach. The implication is that contingent faculty should make more of an effort. Few professors publish or give conference presentations, despite the institution's stated commitment to research and faculty advancement. Institutional research has led to more publications, but their validity and effect on classroom instruction are questioned by many. Universities have not yet figured out how to integrate research and instruction effectively for student learning. Students in the biological sciences report higher levels of general satisfaction that they are gaining these competencies through competence development than their social science and engineering counterparts, despite the fact that the university's official academic framework establishes teaching criteria for all its schools with clear competences to be obtained before graduating. Based on these findings, universities will be better able to establish policies that raise the bar in terms of teaching quality, advance professional development, and fortify academic performance on a global scale

Recommendations

The findings highlight the need for the development and validation of a single instrument to assess the degree to which professor abilities help students achieve their graduate profiles in line with societal needs. A study of recent grads' job history might help here as well, revealing whether or not the envisioned grad profile really matched the demands of businesses. Furthermore, a more in-depth investigation of the elements impacting students' views in the three categories is required to comprehend why biological sciences seems to deliver higher competence development to its pupils.

Limitations

The absence of a unified tool to assess the impact of Professors' outlooks, skills, and growth on their students' evaluations of their own academic and professional success was the primary drawback of this investigation. In addition, it was intended that students participate in focus groups to discuss the factors that contribute to or detract from their happiness with each of the three course components. Because to the COVID-19 epidemic, classes had to be canceled, thus no one can say for sure what elements affected students' overall happiness or how much they learned.

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