

VERTICAL ALIGNMENT OF FACULTY OF SCIENCE AND MATHEMATICS

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Abstract

This study looked into the compatibility of the designed vertical articulation models with the US standards of vertical articulation. These models were validated upon analysis on the profile of Science and Mathematics faculty members from twenty (20) different colleges and universities in United States. The validation standards of the models were based on the vertical alignment status of the faculty in terms of their degrees from baccalaureate to doctorate, teaching assignments, and research outputs. Results showed that Model 1, which is described in terms of discipline and output alignment, fits the vertical articulation condition for most science and mathematics faculty of the United States. American educational system strictly follows the standards of empowering the faculty members through aligned discipline from BS to Ph.D. as well as aligned teaching assignments, research outputs and other scholarly works.

Keywords: *vertical alignment, vertical articulation model, faculty, science and mathematics*

1.0 Introduction

Vertical Alignment is a complex but increasingly important aspect in every educational system. The vertical alignment of degree manifests deep understanding and expertise in the transmission and generation of relevant information. It demands profundity in knowledge, facilitation skills and competencies. One of the parameters which gauges the quality of the Higher Education Institutions (HEIs) is the academic qualifications of the faculty members. It is also measured by faculty research outputs and other scholarly works which are relevant to their chosen discipline. Professors of different colleges and universities are expected to possess the necessary skills and competencies in their discipline. They are high performing professional educators who contribute for the generation and transmission of new knowledge. However, not all faculty members in every HEI are vertically aligned in terms of degrees and outputs.

One of the concerns which the government looks into is to realign teachers at all levels most especially in Higher Education Institutions (HEIs). Success in the implementation of an academic program de-

pends to a great extent on the quality of the faculty. They must exhibit competencies as evidenced by their experiences, research outputs and creative works. They must involve in the creation and dissemination of new knowledge and innovations (AACCUP, 2014). The Commission on Higher Education (CHED) had also explicitly set vertical alignment standards of faculty by giving high emphasis on its policies, standards, and guidelines in matching the degrees of the faculty which serves as the basis of evaluating all Philippine Higher Education Institutions (PHEIs). According to the provision of the CHED Memorandum Order (CMO) 36 series of 1998, if possible, there should be vertical articulation between the undergraduate and the graduate levels of a discipline. That is, undergraduate and graduate degrees must belong to same discipline. Lapiz (2015) averred that vertical articulation of faculty roughly means, supposedly, the most qualified person to hold a position would be someone whose degrees are “vertically” aligned to his major discipline. That is, in the academe, the baccalaureate, masters, and doctorate degrees must

all be in the same field.

With the above views, the researchers designed three (3) vertical articulation models, each has its own features of how vertical articulation is defined. With these models, the concept of vertical alignment will not only be limited to the articulation of degree programs and but also to the articulation of outputs of faculty. It is believed that with these models, we will be able to come up with clear and sophisticated verti-

cal articulation criteria in the country which will lead to its quests for par excellence quality education and global standards.

Hence, this paper aims to determine the extent of congruency of the three designed vertical articulation models with those of the US standards. It looked into which of the formulated models fits the standards of the twenty (20) different higher education institutions of United States.

2.0 Model Development

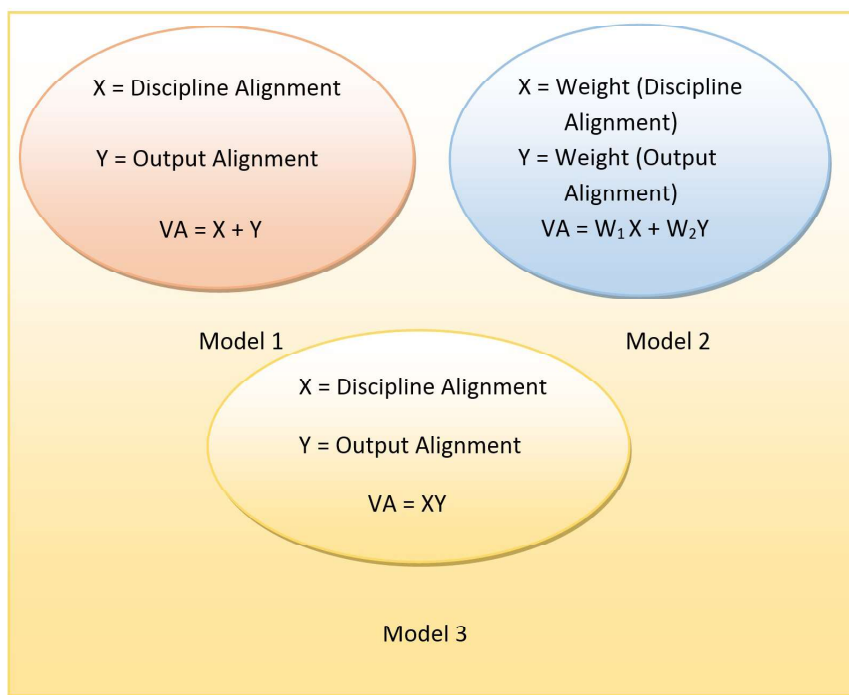


Figure 1: Designed Models of Vertical Articulation

Model 1 is defined in terms of discipline and output alignment which implies failure in one aspect is failure in vertical articulation.

Model 2 is described as the weight of discipline alignment and weight of output alignment. If $VA \geq n$, then it is aligned.

Model 3 is delineated as discipline alignment or output alignment.

3.0 Methodology

Researchers designed three (3) models of vertical articulation. These models were validated upon analysis on the profile of Science and Mathematics faculty members from twenty (20) different colleges and universities in United States. The validation standards of the models were based on the vertical alignment status of the faculty in terms of their degrees from baccalaureate

to doctorate, teaching assignments, and research outputs. Ultimately, the practical applications of the vertical alignment models may serve as the guiding principles among faculty members and evaluators in the coun-

try and compare on how this is defined and implemented in the United States.

4.0 Results and Discussions

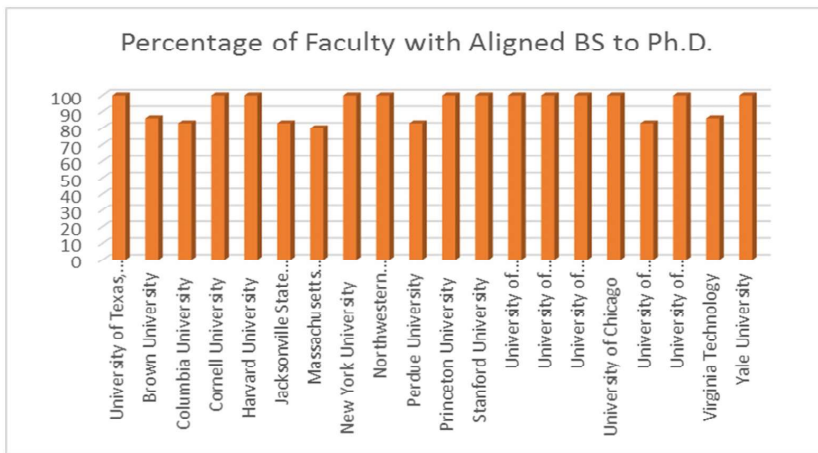


Figure 2: Bar Graph of the Percentage of Faculty in Twenty Universities of United States with Aligned BS to Ph. D.

It can be noted from the figure that the faculty are most likely vertically aligned in terms of their baccalaureate degree to doctorate degree. The faculty of these universities have occupied academic positions based on their expertise standards of a specific field of specialization.

In this case, it is easy for these higher education institutions to offer graduate

programs because they have plenty of human resources who can facilitate the transmission and generation of new knowledge. Each institution is well-appointed with professional experts in various disciplines. Nonetheless, there are universities where their faculty are not all vertically aligned, but their degrees from BS to Ph. D. are just related or relevant with each other.

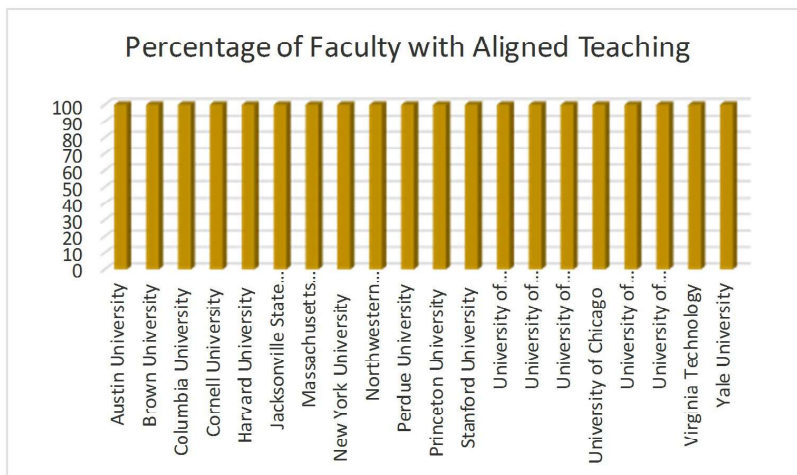


Figure 3: Bar Graph of the Percentage of Faculty in Twenty Universities of United States with Aligned Teaching Assignments

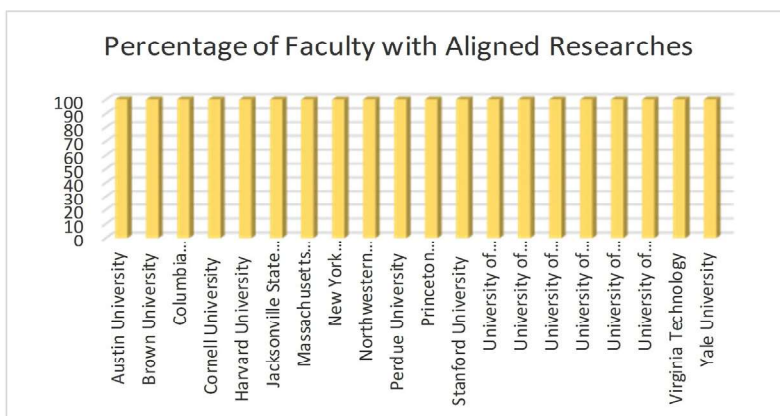


Figure 4: Bar Graph of the Percentage of Faculty in Twenty Universities of United States with Aligned Researches

It can be observed in both Figures 3 and 4 that all science and mathematics faculty of the 20 different colleges and universities are vertically aligned in terms of their teaching assignments and research outputs. The academic duties and responsibilities of their faculty are exhaustively concentrated to their field of expertise. Their teaching assignments are all aligned to their chosen degree which demand profundity in knowledge, facilitation skills and competencies. In like manner, their research outputs are also aligned with respect to their discipline.

In this scenario, the educational system of these institutions in terms of vertical articulation standards is clearly emphasized in terms of aligned teaching assignments and research outputs.

Vertical articulation in the Philippine context distinctly differ from the United States based on some perspectives. The table below shows the economic, cultural, social, and political viewpoints of the Filipinos and the Americans with respect to vertical alignment.

Perspective	Philippines	USA
Economic Perspective	Educational opportunities, like advanced studies are limited due to financial resources. Budget allocation plays a very important role in the educational system. But we cannot deny the fact that not all state colleges and universities in the country enjoy equal chunks of budget. Those universities which are given with high budget allocation and high number of plantilla positions can probably help solve some issues of vertical articulation. One indicator is the faculty qualifications, they can afford to hire experts in specific field because	Rich educational opportunities are found in every State due to sufficient financial resources. One can easily enroll to an aligned graduate degree because they have available experts in specific field. Graduate programs are available in most universities. This is manifested by the profile of the majority of the faculty in each university whose baccalaureate degrees are aligned with their respective field. The faculty exercise

	<p>they have sufficient finances to compensate these people. Hence, they can also offer plenty of academic programs because they have the human resources. Whereas, those SUCs with limited financial resources and plantilla positions cannot sufficiently provide the standard requirements. The limited financial resources and number of items distributed to different SUCs is not enough to ensure of vertical articulation in the country. The tendency is that some SUCs has no choice, they will just hire faculty who are available and more or less possess minimum qualifications.</p>	<p>their profession through instructions and research undertakings based on their disciplines. “Experts” or “expertise” is significantly associated with their respective duties and responsibilities. Hence, vertical articulation standard is tremendously observed in every educational institution in United States.</p>
<p>Cultural Perspective</p>	<p>The concept of “expertise” and “experts” are deeply rooted in the culture of the Filipinos as notions that belong to the domain of the “elders” and “wise-men” of the various ethnic tribes. As such, expertise is equated to wisdom and accumulated knowledge through years of experience. Although this conception of “expertise” has been slowly replaced by the Western definition of the term, it remains ingrained in the psyche of many Filipinos particularly those living in the rural areas of the country. There are many manifestations of this cultural dimension of “expertise” in the Philippine context. For instance, when a typical Filipino gets sick, family members immediately seek the assistance of the so-called “expert” (albularyo) or quack doctor instead of a medical specialist. Superstition and superstitious beliefs are still common instead of relying on the expertise provided by science and scientists. Religion is also a culture. Typical Filipinos believe that offering “rituals” or “dalit” will surely bring good harvest instead of believing on the use of fertilizers.</p>	<p>The concept of “expertise” and “experts” are described in terms of educational attainment from baccalaureate to doctorate degree. They believe that experts are those who have vast and deep understanding of the concepts, theories, and principles in a specific field. They exhibit “depth and breadth of knowledge. Those who possess profundity in knowledge, skills and competencies and maximize these through actual application in the real world of life. American rely on the results of researches conducted by experts and apply those in most relevant conditions.</p>

Social Perspective	Social prestige is more influential than expertise. Position is attached to prestige not to expertise. In some cases, persons who holds high positions are usually invited as resource speakers during gatherings even if they are not experts of the field. One of the indicators, there are occasions that well-known individuals are invited as resource speakers even if the topics are not related to their discipline.	Social prestige is always associated with expertise. Social activities are products of experts' decisions and endeavor. Acquiring higher position is based on the well-crafted set of standards like the academic qualifications and expertise of the person.
Political Perspective	The political viewpoints of some Filipinos in choosing leaders are based on the popularity of the candidates as citizens of the country. The concept of "expertise" or "capability" of a candidate to handle a certain position is not that of the most important standards. Moreover, there are also situations wherein "expertise" is not that highly considered in giving of designation for a certain position, rather, it is based on the trust and confidence of the appointing authority.	American views when they choose their political or academic leaders are based on specified set of standards. Upon giving designations to hold offices/positions a thorough process of scrutinizing the qualifications of the prospective officers are observed and practiced.

5.0 Conclusion

The study concluded that the American educational system strictly follows the standards of empowering their faculty members through aligned discipline from BS to Ph.D., aligned teaching assignments, researches, and other scholarly works. Nonetheless, there are higher education institutions in the Philippines where faculty profile have same vertical articulation standards with that of the United States. But generally, in the Philippine context, faculty profile in terms of vertical articulation is not really compatible with that of the United States due to the economic, cultural, social,

and political conditions of these two countries.

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