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Curriculum alignment: An evaluation of the major determinants at the college of health sciences university of Port Harcourt

ABORLO KENNEDY NKPORBU [1], CHINA TUDOR [2] and ESTHER FOMSI [3]

[1] *Department of Mental Healh, University of Port Harcourt, Port Harcourt, Nigeria.*
[2] *University of Exeter Medical School, United Kingdom.*
[3] *Department of Instructional Technology, Faculty of Education, University of Port Harcourt, Port Harcourt, Nigeria.*

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Abstract

Background: World over, interest for extremely qualified contemporary-healthcare experts has expanded (Abdullah et al, 2017). However, alignment of the medical training curriculum is as yet not sufficiently achieved in many training establishments

.**Aim:** This study aimed to evaluate the major determinants of constructive alignment of the MBBS curriculum at the College of Health Sciences, University of Port-Harcourt.

Methods: Mixed method design involving focus group discussions and questionnaire survey was used. Sample size of 423 was calculated. A structured questionnaire adapted from the stufflebeam evaluation and the National University Commission benchmark accreditation checklist were given to 423 respondents made up of learners and facilitators in the MBBS programme using a purposive sampling method. The collected data were thematically and systematically analyzed.

Results: From the study, all listed items were perceived as very much a determinant as they all scored above 60 %. They include among many others Qualification of the facilitators, Duration of employment of facilitators, Length of time allocated for the entire MBBS programme, Size of the class, Resources to run the curriculum, Knowledge base of the facilitators, Knowledge base of the learners, Instructional/ teaching methods, Time allotted for each lectures, Application of Blooms taxonomy,

However, Duration of employment of facilitators, Size of the class, Time allotted for each lectures, Application of Blooms taxonomy, Application of concept of Blue-printing, Degree of alignment with vision, mission and philosophy of programme, Focus on Programme Learning Outcomes (PLO), Alignment between Course Learning Outcome (CLO) and PLO, scored below 80%.

Conclusion: The findings from this study show that for an implemented curriculum to be constructive aligned, basic facilities, required resources, processes and practices must be taken into consideration

Keywords: Curriculum Alignment; Evaluation; Current Practice; College of Health Sciences University of Port Harcourt

1. Introduction

Advanced education culture has gone through an uncommon change, worldwide, from the conventional transmission model, which makes the instructor the focal point of information while the understudy is the latent beneficiary of

* Corresponding author: NKPORBU, A. K

information, to supportive model in which the understudy turns into a functioning accomplice in the learning processes (Maher, 2004). This deviation is depicted as changes from a generally 'educating worldview' zeroing in on instructing/guidance to a 'learning-worldview' which helps students to discover/construct knowledge for selves (Maher, 2004, Johnson et al, 2020). A change in curriculum design is the outcome of this shift.

The most significant change is from contents-based/teachers-centered models to a learning-objectives based-types of designs and a student's-centered-approaches (Colin et al, 2021). As a result, learner's assessments methods should be able to correctly analyze the competences (i.e. skills/knowhow and attitudes) garnered during the training of healthcare experts.

Curriculum is an exemplification of standards, activities and cycles that aide and cultivate huge growth opportunities (Johnson et al, 2020). It is an arranged, smart and purposeful course of action and activities that eventually improve the quality and effect of the opportunity for growth for students (Center for Excellences in Teaching/Learning, Camosuns College, 2012), This compact portrayal of curriculum accentuates the importance of curriculums/plan in its regulative/capacities as focal point of characteristics affirmation and upgrade (Barton et al. 2014).

Curriculum alignment is important to the turn of events and improvement of a projects of study (Albadi et al, 2019). One definition looks at curriculum alignment as how much the parts of educational framework like norms, educational programs, appraisals, and guidance, all work together to accomplish wanted objectives (Case, Jorgenson, and Zucker, 2004). For any instructive program to accomplish its put forth targets or objectives, curriculum alignment should be fundamental to its strategy. Alignment exercises offer accomplices the chance of cooperating to recognizing where, when and how widely the principles/curricular substance related with program of study could be driven and conveyed(Blumberg, 2009; Adey et al, 1990; Boesen et al, 2014; Alfrey et al, 2017).

In understanding constructive alignment, the term constructive presupposes the active-role of learners in learning activities 9Cil 2015; Cizek, 2018). Here, the learner learns by doing. The term alignment indicates the teachers' role in achieving coherence between the learnings-outcomes of the courses, teaching- learnings activity (TLAs), which they designed and selected and the assessments tasks (ATs) that enable them to, correctly and adequately measure the students' performances-in-alignments with stated intended learning outcomes (ILOs)(Anderson, 2002; Alfrey et al, 2017). Alignment means in good-functional-curriculum designs, the I-LOs, the T-LAs and the A-Ts coherently converge-towards achieving the learnings-outcomes.

The preparation curriculum and the evaluations of learnings in medical school need to focus on the dynamic and polyvalent issues of preparing that which influences the acts of health-care's/experts post-graduation and measuring the level of curriculum-alignment for achieving curricula-outcomes (Orafi, Mohammed, Senussi & Borg, 2009; Akar, 2014; Boesen et al., 2014; Serin, 2015;). This, in any case, is not dependably the situation in numerous institutions associated with health/sciences instructions.

Aim

Thus, this research attempted to examine the determinants of curriculum alignment in the MBBS programme at the College of Health Sciences, University of Port Harcourt.

2. Material and methods

2.1. Research Design

This study adopted the mixed method involving focus group discussion and questionnaire survey.

2.2. Study Area

This study was conducted in the College of Health Sciences, University of Port Harcourt. There are currently five Faculties operating under the College, Clinical Sciences, Basic Medical Sciences, Basic Clinical Sciences, Allied Medical Sciences and Dentistry. There are twenty-eight Departments currently in the College. The programmes offered in the College include degree programmes such as Anatomy and Physiology as well as professional degree programmes such as Nursing, Medicine and Surgery (MBBS) and Dentistry (BDS).

2.3. Population for the Study

The target population for the study included the students/learners, facilitators, educators and clinical supervisors of the MBBS programme of the College of Health Sciences, University of Port Harcourt. The College has a total teaching Staff of about 317 and an undergraduate student population of about 8000, out of which about 740 students are currently in the MBBS programme spread across years 2 to 6.

2.4. Sample and Sampling Technique

The sample size was determined using Fischer formula (Kish, 1965):

$$n=(Z^2\ pq)/e^2 \ldots\ldots\ldots\ldots (3.1)$$

Where;
n = the minimum sample size
Z = the standard normal deviate corresponding to the level of significance,
P = percentage picking a choice, expressed as decimal (.5 used for sample size needed)
q = (1-p)
e = level of precision or maximum error of estimate at 95% confidence level, with e = 0.05
p = 0.5
Z = 1.96
q = 0.5

Therefore,

$$n = Z2pq/e2$$

$$= 1.962 \times 0.5(0.5)/ 0.052$$

$$= 384.16, \text{approx. } 385$$

Attrition rate was 10% of 385 which was 38. The sample size was 423

Purposive sampling technique was used in collecting data for this study. Purposive sampling ensured that key actors and drivers of the curriculum at the College of Health Sciences as well as the Faculty of clinical sciences of University of Port Harcourt are among the respondents. Students were 224 while the facilitators were 200. The questionnaires were distributed with the help of 4 trained research assistants.

2.5. Methods of Data Collection/Instruments

The study used structured questionnaires adapted from checklists during data collection.

The Stufflebeam (Stufflebeam, 2007) and the National Universities Commission accreditation checklists were used during the focus group interview/discussions with respondents (i.e. learners, educators and clinical supervisors). Questionnaire was used to collect socio-demographic data and views of learners with regard to instructional methods, assessment practices applied by the instructors/educators during the implementation of the programs' curricula. The researcher utilized program evaluation design principles using the Stufflebeam CIPP evaluation model (of context, input, process and product).

2.6. Description of Instrument

The structured questionnaire comprises 3 sections. Section A addressed of socio-demographic parameters. Section B set out to assess resources and to evaluate the context, input, process and product of the MBBS curriculum/programme as specified in the CIPP Checklist.

This section further set out to assess what extent each item constructively aligned with the curriculum/programme objectives on three dimensions as very much constructively align which was assigned score value of 3, not so much constructively align with score value of 2 and align constructively a little with score value of 1. (Anderson, 2002; Blumberg, 2009; Abdullah et al, 2017; Ziebell and Clarke, 2018; Johnsosn et al, 2020).

Section C set out to assess the determinants of Constructive Alignment of the Curriculum of the MBBS Programme by the respondents indicating whether Very much a determinant, Not so much a determinant or Not a determinant at all against each suggested item.

The checklists were therefore used during the focus group discussions with students and facilitators (i.e. learners, educators and clinical supervisors). A structured questionnaire was used to collect views of learners with regard to curriculum implementation methods including learning and teaching activities, assessment practices applied by the instructors/educators during the implementation of the programmes' curriculum.

2.7. Validity and reliability of the Instrument

For reliability, 30 copies of the instrument were administered to respondents in a pilot study to participants who were not part of the study population. Responses were analyzed using Cronbach alpha method. A reliability coefficient of .799 which is approximately .800 was obtained from the pilot study for the MBBS Curriculum Constructive Alignment Questionnaire (MCCAQ) as a whole. This value shows that the Questionnaire for the study is high as seen by the high Cronbach alpha coefficient and therefore highly reliable.

2.8. Method o Data Analysis

The collected data were analyzed descriptively using Statistical Package for Social Sciences version 24 (SPSS-24). Counts and frequencies were calculated. Mean and standard deviations were also calculated. For the resource verification, any item with scores up to 70% was considered available. For determination of the level of constructive curriculum alignment, the three response groups were classified using their total score into 0-43= Align constructively a little, 44-86=Much constructively aligned, 87-129=Very much constructively aligned. The mean score of each category was calculated. For level of determinants, decision on level of determinant was based on any of the three (3) responses was based on simple highest count (percentage).

2.9. Ethical Approval

Ethical clearance was obtained from the Research Ethics Committee of University of Port Harcourt. The research instrument included instructions on how to use them and assured all the respondents of their confidentiality. To ensure anonymity, the participants were not required to write their names on the questionnaires.

3. Results

Table 1 Demographic and other information of respondents in number count and percentage

S/N	Age	Response count	Percentage %
1	16-25yrs	101	31%
2	26-35yrs	88	27%
3	36-45yrs	56	17%
4	46-55yrs	39	12%
5	56-65yrs	23	7%
6	66-75yrs	12	4%
S/N	**Gender**		
1	Male	172	54%
2	Female	147	46%
S/N	**Occupation**		
1	Lecturing	98	30%
2	Lecturing/Admin	38	11%
3	Student	183	59%
S/N	**Faculty**		

1	Allied Medicine	58	18%
2	Basic Clinical Sciences	79	25%
3	Basic Medical Sciences	81	26%
4	Clinical Sciences	95	30%
S/N	**Qualification**		
1	BSc/BA/MBBS	4	3%
2	MSc/MD/PhD	51	38%
3	Fellowship/Post-Doctorate	81	59%
S/N	**Year of Teaching**		
1	1-10yrs	81	59%
2	11-20yrs	51	37%
3	21-30yrs	2	2%
4	31-40yrs	2	2%
S/N	**Knowledge of Content of MBBS Curr.**		
1	Very Much	136	42%
2	Not So Much	112	35%
3	A Little	71	23%
S/N	**Level**		
1	200	20	11%
2	300	29	16%
3	400	38	21%
4	500	68	37%
5	600	28	15%

Table 2 Number count and percentage of the major determinants of achieving a constructively aligned curriculum in the college

S/N	Determinants	Very much a determinant	Not so much a determinant	Not a determinant at all	Decision
1	Qualification of the facilitators	274 (85%)	32 (10%)	13 (5%)	Very much a determinant
2	Duration of employment of facilitators	255 (79%)	47 (14%)	17 (7%)	Very much a determinant
3	Length of time allocated for the entire MBBS programme	300 (94%)	19 (6%)	0 (0%)	Very much a determinant
4	Size of the class	255 (76%)	54 (16%)	10 (5%)	Very much a determinant
5	Resources to run the curriculum	274 (85%)	39 (15%)	0 (0%)	Very much a determinant
6	Knowledge base of the facilitators	262 (82%)	53 (16%)	4 (2%)	Very much a determinant

7	Knowledge base of the learners	288 (80%)	29 (13%)	2 (7%)	Very much a determinant
8	Instructional/ teaching methods	256 (90%)	43 (9%)	20 (1%)	Very much a determinant
9	Time allotted for each lectures	247 (77%)	53 (16%)	19 (7%)	Very much a determinant
10	Application of Blooms taxonomy	233 (73%)	48 (15%)	38 (12%)	Very much a determinant
11	Application of concept of Blue-printing	222 (69%)	47 (14%)	50 (7%)	Very much a determinant
12	Level of commitment to implementation	276 (86%)	36 (11%)	7 (3%)	Very much a determinant
13	Efficiency of regulatory roles	263 (82%)	50 (15%)	6 (3%)	Very much a determinant
14	Degree of alignment with vision, mission and philosophy of programme	236 (73%)	44 (13%)	41 (14%)	Very much a determinant
15	Focused on Programme Learning Outcomes (PLO)	242 (75%)	56 (17%)	27 (8%)	Very much a determinant
16	Alignment between Course Learning Outcome (CLO) and PLO	266 (83%)	48 (15%)	5 (2%)	Very much a determinant
17	Assessment Methods/ Examination Format	282 (88%)	32 (10%)	5 (2%)	Very much a determinant
18	Continuous Assessment is a key components of Formative assessment	246 (77%)	60 (18%)	13 (5%)	Very much a determinant
19	Acquisition of skills, competence knowledge and attitude are emphasized	243 (76%)	59 (18%)	17 (6%)	Very much a determinant
20	Facilities available for the Programme	267 (83%)	52 (16%)	1 (1%)	Very much a determinant
21	Timely review of the Curriculum	276 (86%)	30 (9%)	13 (5%)	Very much a determinant
22	Orientation for the Facilitators	246 (77%)	68 (21%)	5 (2%)	Very much a determinant
23	Orientation for the Learners	238 (74%)	68 (21%)	13 (5%)	Very much a determinant
24	Conducive learning environment	249 (78%)	39 (12%)	31 (10%)	Very much a determinant
25	Ratio of Academic Staff to Students	273 (85%)	31 (9%)	10 (6%)	Very much a determinant
26	Programme Learning Outcome, informs the title and content of course	265 (83%)	35 (10%)	17 (7%)	Very much a determinant
27	Degree of agreement between CLOs and PLOs	295 (92%)	15 (4%)	9 (4%)	Very much a determinant

28	Instructional methods aligns with both PLO and CLO	245 (76%)	50 (15%)	19 (9%)	Very much a determinant
29	Providing information on CLO before any course	238 (74%)	62 (19%)	14 (7%)	Very much a determinant
30	Providing information on assessment methods at the beginning of any course	262 (82%)	47 (14%)	10 (4%)	Very much a determinant
31	Stakeholders identified needs	256 (80%)	48 (15%)	15 (5%)	Very much a determinant
32	Society's identified needs	255 (79%)	35 (10%)	29 (11%)	Very much a determinant
33	Regular accreditation exercise undertaken	296 (92%)	21 (6%)	2 (2%)	Very much a determinant

1=Not a determinant at all., 2=Not so much a determinant, 3= Very much a determinant

4. Discussion

Of the 200 questionnaires distributed to facilitators, 136 respondents filled and returned their questionnaires representing 68%, while 189 out of the 224 questionnaires distributed to students were filled and returned, representing a response rate of 24.4% (table 1). The table shows the demographic and other information of the respondents. It shows the ages of the respondents. It reveals that respondents between the ages of 16-25yrs formed the majority with 101 which accounted for 31% of the sample, and was followed by respondents between the age of 26-35yrs were 88 which accounted for 27% of the sample, while respondents between the age of 66-75yrs were the least with 12 which represents 4% of the sample.

The table shows as well the gender distribution of the study. It reveals that male respondents were 172 which accounted for 54% of the sample while female were 147 which represents 46% of the sample. It reveals further that respondents who were facilitators were 136 representing 41% of the sample while respondents who were learners were 184 which represents 59% of the sample study.

As seen from the table also, respondents who were from faculty of Clinical Sciences were 43 which accounted for 13% of the sample, respondents from Basic Medicine were 64 which accounted for 20% of the sample, respondents from Applied Medicine were 65 which accounted for 20% of the sample, respondents from Basic Medical Sciences were 69 which accounted for 21% of the sample while respondents from College of Health Sciences were 78 which accounted for 24% of the sample. The table reveals as well respondents who were from faculty of Clinical Sciences were 43 which accounted for 13% of the sample, respondents from Basic Medicine were 64 which accounted for 20% of the sample, respondents from Applied Medicine were 65 which accounted for 20% of the sample, respondents from Basic Medical Sciences were 69 which accounted for 21% of the sample while respondents from College of Health Sciences were 78 which accounted for 24% of the sample.

From the table also, respondents who were facilitators who had BSc/BA/MBBS qualification were 4 which accounted for 3% of the facilitators sample, facilitators who had BSc/BA/MBBS plus MSc/MD/PhD qualification were 51 which accounted for 51% while facilitators who had BSc/BA/MBBS plus MSc/MD/PhD and Fellowship/Post-Doctorate qualification were 81 which accounted for 59% of the facilitators. The table shows for teaching experience, facilitators who had 1-10yrs teaching experience were 81 which accounted for 59% of the facilitators sample, facilitators who had 11-20yrs teaching experience were 51 which accounted for 37% of the facilitators sample, facilitators who had 11-20yrs teaching experience were 51 which accounted for 37% of the facilitators sample while facilitators who had 31-40yrs teaching experience were 2 which accounted for 2% of the facilitators sample,

The table reveals as well information about the knowledge of content of MBBS. It shows that 136 respondents which represents 42% of the sample of the study had very much knowledge of the content of MBBS, 112 respondents which represents 35% of the sample of the study had Not so much knowledge of the content of MBBS while 71 respondents which represents 23% of the sample of the study had a little knowledge of the content of MBBS. The highest count and percentage was for respondents who had very much knowledge of the content of MBBS showing that majority of the sample has very much knowledge of the content of MBBS,

From the table also, respondents who were learners from 200 level were 20 which accounted for 11% of the learners sample, learners from 300 level were 29 which accounted for 16% of the learners sample, learners from 400 level were 38 which accounted for 21% of the learners sample, learners from 500 level were 68 which accounted for 37% of the learners sample, and learners from 600 level were 28 which accounted for 15% of the learners sample

Table 2 shows the Number count and percentage of the major determinants of achieving a constructively aligned curriculum in the college. It reveals the listed 33 items in which respondents were to respond to if the items were Very much a determinant, Not so much a determinant and Not at all a determinant were seen by the respondents as *Very much a determinant.* This can be inferred from the number count and percentage. It shows that for all the listed major possible determinants, the column of *Very Much a determinant* had the highest possible count as well as percentage when compared to the other graded columns.

Precisely, Qualification of the facilitators, Duration of employment of facilitators, Length of time allocated for the entire MBBS programme, Size of the class, Resources to run the curriculum, Knowledge base of the facilitators, Knowledge base of the learners, Instructional/ teaching methods, Time allotted for each lectures, Application of Blooms taxonomy, Application of concept of Blue-printing, Level of commitment to implementation, Efficiency of regulatory roles, Degree of alignment with vision, mission and philosophy of programme, Focus on Programme Learning Outcomes (PLO), Alignment between Course Learning Outcome (CLO) and PLO, Assessment Methods/ Examination Format, Continuous Assessment is a key components of Formative assessment, Acquisition of skills, competence knowledge and attitude emphasized, Facilities available for the Programme, Timely review of the Curriculum, Orientation for the Facilitators, Orientation for the Learners, Conducive learning environment, Ratio of Academic Staff to Students, Programme Learning, Outcome, informs the title and content of course, Degree of agreement between CLOs and PLOs, Instructional methods aligns with both PLO and CLO, Providing information on CLO before any course, Providing information on assessment methods at the beginning of any course, Stakeholders identified, needs, Society's identified needs and Regular accreditation exercise undertaken are all *Very Much a determinant* to achieving a constructively aligned curriculum in the College of Health Sciences , University of Port Harcourt as seen by their very high number count and percentage of respondents.

In this study, both learners and facilitators constituted the research respondents in a ratio of 1:1.05 for facilitators and learners. For any curriculum to thrive, both the facilitators and learners significantly perform key roles. Therefore, in evaluating the standards or performance of any curriculum, involvement of both facilitators and learners is equally key. This in fact supports many researchers position on the central role play by both learners and facilitators in the implementation and realization of the intended goals of the curriculum. Biggs (1996) had in his constructivist view, believed that learning is not imposed or transmitted by the teacher, but rather it is created by the students' learning activities and assessment (Biggs, 2003).

Biggs further asserts that for students to be meaningfully engaged and bridging a learning gap, the curriculum needs to be focused on what the students are able to do (Biggs, 1996). This is also in conformity with what Shuell had earlier explained that if students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes (Shuell, 1986).

This modern view however was a shift from earlier positions where Wiggins and McTighe recognized the increasing prevalence of coverage teaching – teaching in which the aim is simply to get through a certain amount of material in a certain amount of time, with little emphasis on whether a student has actually learnt anything by the time the course is completed. They refer to this style of teaching as "Teach, test and hope for the best". In recognising the limitations of this style of teaching, Wiggins and McTighe later developed a style of curriculum design called backwards design (Wingin et al, 2001).

From the study, the age group 16-25 years constituted the majority and this may simply have reflected the age group of majority of the students. Also, from the age distribution, there are few facilitators getting close to retiring and majority fell within the middle and vibrant age. This may ordinary suggest high productivity with the vibrancy that may be shown. Closely related to this is the distribution of duration of teaching, majority were those who have been teaching for about two decades.

From the distribution of the qualifications, there is a suggestion that majority of the facilitators possess qualification beyond the first degree both in the clinical as well as pre-clinical faculties. The high knowledge content of the MBBS curriculum may further give credibility to the findings in this study as this may suggest that the respondents were reasonably acquainted with the questionnaire and to a large extend sure of their responses. It is important for the

facilitators to be adequately qualified to instruct learners in the medical field. However, qualification may not imply an indebt knowledge of the implemented curriculum, which is important for the drivers of the curriculum (La Marca, Redfield, & Winter, 2000; Shalem, Sapire, & Huntley, 2013).

The facilitators own the task of aligning the various components of the curriculum the ILOs, the TLAs and the ATs and ensure they coherently converge towards the attainment of the learning outcomes Case, 2004; Borti, 2014). In this regards, key components are mentioned for a curriculum to adequately aligned. These include the objectives of the programme, learning activities and instructional methods as well as the assessment techniques (La Marca, Redfield, & Winter, 2000; Shalem, Sapire, & Huntley, 2013). Therefore, the facilitators must beside the prescribe qualification, be well informed of the philosophy, vision, mission, aims and objective of the programme. This is in line with the view of several researchers that for effective alignment of curriculum, assessment and pedagogy should be done for both practicing and pre-service facilitators and tutors as it can inform teaching practice by improving teachers' understanding of assessment processes and the intentions of curriculum documents (La Marca, Redfield, & Winter, 2000; Shalem, Sapire, & Huntley, 2013). In short, understanding curriculum alignment can support teachers in making improvements to their planning, teaching and assessment (Martone & Sireci, 2009).

The outcome of the focus group discussion largely informed the items on the determinant section of the questionnaire. From the study, all listed items were perceived as very much a determinant as they all scored above 60 % (table 4). They include Qualification of the facilitators, Duration of employment of facilitators, Length of time allocated for the entire MBBS programme, Size of the class, Resources to run the curriculum, Knowledge base of the facilitators, Knowledge base of the learners, Instructional/ teaching methods, Time allotted for each lectures, Application of Blooms taxonomy, Application of concept of Blue-printing, Level of commitment to implementation, Efficiency of regulatory roles, Degree of alignment with vision, mission and philosophy of programme, Focus on Programme Learning Outcomes (PLO), Alignment between Course Learning Outcome (CLO) and PLO, Assessment Methods/ Examination Format, Continuous Assessment is a key components of Formative assessment, Acquisition of skills, competence knowledge and attitude emphasized, Facilities available for the Programme, Timely review of the Curriculum, Orientation for the Facilitators, Orientation for the Learners, Conducive learning environment, Ratio of Academic Staff to Students, Programme Learning, Outcome, informs the title and content of course, Degree of agreement between CLOs and PLOs, Instructional methods aligns with both PLO and CLO, Providing information on CLO before any course, Providing information on assessment methods at the beginning of any course, Stakeholders identified, needs, Society's identified needs and Regular accreditation exercise undertaken are all *Very Much a determinant* to achieving a constructively aligned curriculum in the College of Health Sciences , University of Port Harcourt as seen by their very high number count and percentage of respondents.

However, Duration of employment of facilitators, Size of the class, Time allotted for each lectures, Application of Blooms taxonomy, Application of concept of Blue-printing, Degree of alignment with vision, mission and philosophy of programme, Focus on Programme Learning Outcomes (PLO), Alignment between Course Learning Outcome (CLO) and PLO, Continuous Assessment is a key components of Formative assessment, Acquisition of skills, competence knowledge and attitude emphasized, Orientation for the Facilitators, Orientation for the Learners, Conducive learning environment, Instructional methods aligns with both PLO and CLO, Providing information on CLO before any course, and Society's identified needs scored below 80%.

This shows that for an implemented curriculum to be constructive aligned, basic facilities, required resources, processes and practices must be taken into consideration (Kurz, Elliott, Wehby, & Smithson, 2010; Akar, 2014). The finding is in line with those of other studies that have viewed that teachers' prior experience and values play an important role in their interpretation of a new prescribed curriculum (Dai, Gerbino, & Daley, 2011; Kuiper et al., 2013; Penuel, Fishman, Gallagher, Korbak & Lopez-Prado, 2009).

Other studies have have looked at teachers' capabilities and self-efficacy (Orafi, Mohammed, Senussi & Borg, 2009; Serin, 2015), amount of time devoted to the curriculum, as well as the amount and quality of professional development teachers are receiving on the reformed curriculum or content (Akar, 2014; Boesen et al., 2014) as germane to actualising curriculum alignment. Support by school management, regulatory agencies and colleagues such as alumni to implement the change has also been reported to be a noteworthy factor (Alfrey et al., 2017; Orafi, Mohammed, Senussi & Borg, 2009).

On the other hand, other studies have asserted that factors which are independent of the direction or philosophy of the reform can lower curriculum alignment, such as perceived time constraints due to overcrowded curricula (Akar, 2014; Boesen et al., 2014), pressure to teach to high stakes assessment (et al., 2019; Nargund-Joshi et al., 2011), student resistance (Orafi, Mohammed, Senussi & Borg, 2009) and, in the case of India and Saudi Arabia, class size (Albadi et al.,

2019; Nargund-Joshi et al., 2011). All these positions supported the findings of this study. However, a closer look at the findings, reviewed some resources or processes that scored below 80%. Perhaps the College of health Sciences may need to pay more attention to these areas to further improve on the curriculum alignment and delivery.

5. Conclusion

The study found that majority of the resources investigated were Very much a determinant for the realization of constructive alignment. It shows that for all the listed major possible determinants, the column of *Very Much a determinant* had the highest possible count as well as percentage when compared to the other graded columns. It is therefore important that medical training institutions should focus on ensuring theses resources are provided in the environment of training and curriculum to ensure adequate curriculum alignment.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest in this study.

Statement of ethical approval

Ethical clearance was obtained from the Research Ethics Committee of the University of Port Harcourt. The study involved human subjects; Therefore, all ethical provisions were followed. The research instrument included instructions on how to use them. To ensure anonymity, the participants were not required to write their names on the questionnaires.

Statement of informed consent

Informed consent was obtained from all the participants and all the respondents were assured of their confidentiality.

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