

Method

The descriptive survey design was adopted for the study. This design according to Nworgu (2015) is one which seeks to describe certain variable in relation to a given population. The study was guided by three research questions and three null hypotheses which were tested at 0.05 level of significance. The study was carried out in Rivers State on a population of 257 principals of all the senior secondary schools of the state. A questionnaire instrument titled “Questionnaire on Awareness of Total Quality Management Strategies (QATQMS)” was used to collect data for the study. The instrument was validated by three experts. A reliability coefficient of 0.82 was obtained using Kuder-Richardson (K-R 21) formula. Data collected for the study were analyzed using frequencies, percentages and chi-square statistics.

Results

Table 1: Frequency and percentage responses on principals’ awareness of the strategies of teacher development N=253

S/N	Items	Aware		Not Aware		Remark
		freq	%	freq	%	
1.	The principal should prepare and submit proposals for teacher development programmes to Rivers State Senior Secondary Board (RSSSB)	179	70.8	74	29.2	Aware
2.	The principal should plan and direct in-school development programmes in specific subjects	200	79.1	53	20.9	Aware
3.	The principal should ensure that teachers are certified members of professional bodies (e.g Teachers Registration Council of Nigeria, TRCN)	190	75.1	63	24.9	Aware
4.	Promotion opportunities for teachers should be regular to encourage their professional growth.	175	69.2	78	30.8	Aware
5.	Teachers should be trained in Total Quality Management (TQM) methods	105	41.5	148	58.5	Not-Aware

The percentage responses of principals in Table 1 show that over 50% of the principals indicated that they are aware of four out of the five listed teacher development strategies which include that: the principal should prepare and submit proposals for teacher development programmes to Rivers State Senior Secondary Board (RSSSB); principal should plan and direct in-school development programmes in specific subjects; principal should ensure that teachers are certified members of professional bodies (e.g Teachers Registration Council of Nigeria, TRCN) and that promotion opportunities for teachers should be regular to encourage their professional growth. The principals however affirmed they are not aware of the remaining one strategy which is that teachers should be trained in Total Quality Management (TQM) methods.

Table 2: Frequency and percentage responses on principals' awareness of the strategies of teamwork N=253

S/N Items	Aware		Not Aware		Remark
	freq	%	freq	%	
6. Teachers should be encouraged to work as colleagues in teams or groups for more effective outcomes.	147	58.1	106	41.9	Aware
7. Students should be made part of the working team in the school.	147	58.1	106	41.9	Aware
8. Team work is encouraged by defining the school vision and missions to school members	128	50.6	125	49.4	Aware
9. Teamwork is important in harnessing the diversities in teachers and other staff.	193	76.3	60	23.7	Aware

The analysis in Table 2 shows the frequency and percentage responses on principals' awareness of the strategies of teamwork. The analysis indicates that over 50% of the principals affirmed their awareness of the four listed strategies of teamwork in secondary schools in Rivers State.

Table 3: Frequency and percentage responses on principals' awareness of the strategies of community involvement N=253

S/N Items	Aware		Not Aware		Remark
	freq	%	freq	%	
10. The need for regular communication by the principal with parents on school events	203	80.2	50	19.8	Aware
11. The importance of allowing community members to serve in school-based management committees	189	74.7	64	25.3	Aware
12. The importance of honouring deserving community members/parents with awards (e.g certificates of merit)	155	61.3	98	38.7	Aware
13. The need to arrange for old students of a school to be involved in the affairs of the school	156	61.7	97	38.3	Aware

The responses of principals on the awareness of community involvement strategies in Table 3 show that principals are aware of the four community involvement strategies listed. This is indicated by over 50% of principals that affirmed their awareness of the four strategies in Rivers State.

Table 4: Chi-square analysis of the difference in male and female principals' awareness of teacher development strategies

S/N	Items	Male (N=205)		Female (N=48)		X ²	P-value	Remark
		Aware	Not Aware	Aware	Not Aware			
1.	The principal should prepare and submit proposals for teacher development programmes to the Rivers State Senior Secondary School Board (RSSSB)	141(68.8)	64(31.2)	38(79.2)	10(20.8)	2.02	.21	NS
2.	The principal should constitute and use school committees that plan for in-school seminars	163(79.5)	42(29.5)	37(77.1)	11(22.9)	.13	.69	NS
3.	The principal should ensure that teachers get registered and licensed with the Teachers Registration Council of Nigeria (TRCN)	157(76.6)	48(23.4)	33(68.8)	15(31.2)	1.27	.26	NS
4.	Promotion opportunities for teachers should be regular to encourage their professional growth.	145(70.7)	60(29.3)	30(62.5)	18(37.5)	1.23	.29	NS
5.	Teachers should be trained in Total Quality Management (TQM) methods	84(41.0)	121(59.0)	21(43.8)	27(56.2)	.12	.74	NS

In Table 4, all the five teacher development strategies listed had p-value greater than the stipulated 0.05 level of significance. This indicates that there is no significant difference in male and female principals' responses on their awareness of teacher development strategies in Rivers State. The null hypothesis of no significant difference between the two groups was therefore not rejected.

Table 5: Chi-square analysis of the difference in male and female principals' awareness of teamwork strategies

S/N	Items	Male (N=205)		Female (N=48)		X ²	P-value	Remark
		Aware	Not Aware	Aware	Not Aware			
6.	Teachers should be encouraged to work as colleagues in teams or groups for more effective outcomes.	123(60.0)	82(40.0)	24(50.0)	24(50.0)	1.59	.25	NS
7.	School-based committees should be used to execute some administrative tasks	121(59.0)	84(41.0)	26(54.2)	22(45.8)	.37	.62	NS
8.	Team work is encouraged by defining the school vision and missions to school members	103(50.2)	102(49.8)	25(52.1)	23(47.9)	.053	.87	NS
9.	Teamwork is important in harnessing the diversities in teachers and other staff.	154(75.1)	51(24.9)	39(81.2)	9(18.8)	.80	.45	NS

Table 5 shows that the four listed teamwork strategies had p-values greater than the stipulated 0.05 level of significance. This indicates that there is no significant difference in male and female principals' responses on teamwork strategies in Rivers State. The null hypothesis of no significant difference between the two groups was therefore not rejected.

Table 6: Chi-square analysis of the difference in male and female principals' awareness of community involvement strategies

S/N	Items	Male (N=205)		Female (N=48)		X ²	P-value	Remark
		Aware	Not Aware	Aware	Not Aware			
9.	The need for regular communication by the principal with parents on school events	165(80.5)	40(19.5)	38(79.2)	10(20.8)	.04	.84	NS
10.	The importance of allowing community members to serve in school-based management committees	154(75.1)	51(24.9)	35(72.9)	13(27.1)	.10	.71	NS
11.	The importance of honouring deserving community members/parents with awards (e.g certificates of merit)	126(61.5)	79(38.5)	29(60.4)	19(29.6)	.01	.89	NS
12.	The need to arrange for old students of a school to be involved in the affairs of the school	126(61.5)	79(38.5)	30(62.5)	18(37.5)	.01	.89	NS

The analysis in Table 6 shows that there is no significant difference in the responses of male and female principals on their awareness of community involvement strategies in Rivers State. All the four community involvement strategies had p-value greater than the stipulated 0.05 level of significance. The null hypothesis of no significant difference between the two groups was therefore not rejected.

Discussion of Results

Principals' Awareness of Teacher Development Strategies

The percentage responses of principals in Table 1 reveal that they are aware of four listed teacher development strategies but are not aware of one. In Table 4, the results also reveal that male and female principals do not differ significantly in their awareness of teacher development strategies. Going by the two results, it is confirmed that principals in Rivers State are aware of TQM strategies of teacher development. In other words, the principals have a good understanding of the strategies. They know that it is the duty of principals to prepare and submit proposals for teacher development to the school board, and also to plan and direct in-school development programmes for specific subjects. They also acknowledge that it is of benefit to ensure that teachers are certified members of professional bodies, and also that promotion opportunities for teachers should be regular to encourage their professional growth. Principals' awareness of teacher development strategies could be attributed to the fact that the National Policy on Education has detailed stipulations concerning teacher training and education in Nigeria.

By and large, the importance of principals' awareness of teacher development strategies cannot be over emphasized. This is because teachers occupy a central position in harnessing the administrative and material resources necessary to blend with students. Thus, they are the most decisive factor in the teaching and learning process. Through training and development strategies, teachers are able to update their knowledge, skills and interests so they can remain qualified to carry out their duties to the students. Indeed, it is for the purpose of enhancing teacher quality that the concept of TQM advocates that training and development of teachers should be made a continuous process that will last through a teacher's entire working life.

In line with the findings of this study, Chiemeka-Unogu (2018) also found that in-service trainings, workshops, seminars and conferences are staff development programmes that principals in Rivers State were very much aware of and in which the principals themselves participated in so they can continuously update their knowledge as well as their leadership and management skills. Chiemeka-Unogu affirmed that, primarily, the impact of staff development is knowledge growth, skill development and attitude modification which in turn impacts positively on employee's productivity. That is why principals' awareness of staff development is vital for improving teacher effectiveness and student learning. The findings are also in congruence with

Llantos and Pamatmat's (2016) study which showed that principals in Philippines were aware of the principles of TQM which included staff development programmes for teachers.

It must at this juncture be recalled that principals indicated that they are not aware of the strategy that teachers should be trained in TQM methods. The fact that principals are aware of other teacher development strategies suggests that development programmes for principals in Rivers State do not include training in TQM activities. In such situation, it unlikely that principals will really appreciate the need to train their teachers in TQM methods. There is no doubt that training of principals in TQM activities will afford them the opportunity of getting familiar with the idea of training teachers in TQM methods.

Principals' Awareness of Teamwork Strategies

The findings in Table 2 reveal that principals are aware of the four listed strategies of teamwork. In Table 5, the findings also reveal that male and female principals do not differ significantly in their awareness of teamwork strategies. The interpretation of the results is that principals know that teachers should be encouraged to work as colleagues in teams for more effective outcomes, and students should be made part of the working team in the school. They also know that teamwork should be encouraged by defining the school vision and missions to school members, and teamwork is important in harnessing the diversities in teachers and other staff. It is therefore adjudged that, in general, principals in Rivers State are aware of TQM strategies of teamwork. The awareness by principals of the teamwork strategies is commendable. This is because teamwork is recognized as a very essential component in the implementation of TQM in organizations including school organizations. There is no gainsaying that principals' awareness of teamwork will help them in focusing on building an effective system in which interdependence of staff, effective communication and trust among staff exist for quality in the functioning of the school. Principals' awareness of teamwork is also beneficial for achieving continuous improvement in students' academics. This is because teamwork in secondary schools can be organized by departments to afford subject specialists in each department the opportunity to brainstorm and find solutions to problems in their different areas.

The findings on principals' awareness of teamwork tally with that of Llantos and Pamatmat (2016) whose results indicated that principals in Philippines were aware of TQM practices that included teamwork. The findings are equally supported by those of Guillermo (2018) and McEwan, Ruissen, Mark, Zumbo and Beauchamp (2017). The results of Guillermo's research showed that secondary school leaders in Columbia were aware of team principles. Thus, it was concluded in the research that a good way to improve the behavior of members of school teams was to improve the psychological characteristics of the school leader that included his level of awareness of team principles. The results of the study by McEwan, Ruissen, Mark, Zumbo and Beauchamp revealed that team leaders who were selected across several context in Netherlands (academics, healthcare, military and aviation) were aware of teamwork strategies and this was

beneficial for team improvement. Conversely, the findings of this study do not tally with that of Ojo's (2008) study which showed that many universities in Ethiopia did not have quality circles (an aspect of teamwork) because their management seemed not to have knowledge of the culture of TQM. In any case, there should be an explanation for the awareness of teamwork strategies by principals in Rivers State. Perhaps, by interacting and sharing of information amongst themselves, more principals are becoming aware of the importance of encouraging collaborative work practices amongst staff via teamwork

Principals' Awareness of Community Involvement Strategies

The percentage responses of principals in Table 3 reveal that they are aware of the four community involvement strategies listed. In Table 6, the results also reveal that male and female principals do not differ significantly in their awareness of community involvement strategies. This set of results is a confirmation that irrespective of gender, principals in Rivers State are aware of community involvement strategies for school improvement. This suggests that principals in the state are aware that it is important to involve the parents, old students and other community members in the affairs of the school via school-based management committees and other avenues. The principals also know the importance of honouring deserving parents/community members as the need arises. On the whole, the principals understand that their position as school leaders implies that they are also leaders in the community of the school. As leaders in the community, principals should be able to carry the members of the community along in managing the schools. Indeed, the awareness of community involvement strategies by principals is important for exploring ways of developing a bonding with the community that will be beneficial to the continuous improvement of schools. The awareness of community involvement strategies by principals in Rivers State is not surprising. This is because the National Policy on Education also provided for close participation and involvement of communities at the local level in the administration and management of schools in their environment. Nevertheless, the principals may also have a genuine interest in ensuring the cooperation and support of community members in running the schools.

The above results on principals' awareness of community involvement strategies agree with the results of Llantos and Pamatmat (2016) which found that principals in Philippines were aware of TQM principles that included involving community members in matters of the school. On the contrary, these results disagree with Kaegon (2008) which discovered that public secondary school principals in Bayelsa State were not aware of TQM principles including community involvement. The principals in private school were more aware of TQM principles than their counterparts in public schools.

Conclusion

Based on the results of the study, it is concluded that, principals in Rivers State are aware of TQM strategies of teacher development, teamwork and community involvement.

Recommendations

The following recommendations were made based on the results of the study:

1. Rivers State Senior Secondary Schools Board (RSSSSB) in collaboration with the state ministry of education should make provision for intensive training of principals in TQM in order to increase their awareness and interest in concept.
2. Principals should make more efforts to invite professional resource persons for in-school development programmes for teachers on TQM methods.
3. The ministry of education should consider using other avenues to create more awareness for school principals to embrace TQM strategies in schools, for example using enlightenment campaigns.

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