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The Effectiveness of Ghanaian Basic School Band Directors' Rehearsal Strategies on Students' Performance

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Abstract

There has been a concern about the quality and depth of the musical outputs resulting from participation in school instrumental music programmes. In Ghana, the focus is on the level of technical ability exhibited by students and the extent to which instructors assist students in developing acceptable technical control over their musical instruments. Unfortunately, no study has been done in this area in Ghana. Employing a mixed method design with a sample of 10 Basic School Bands, the present study examines the impact of the two teaching strategies revealed in Dordzro (2021) (rote and staff notation methods), on students' performance in terms of playing proficiency. Analysis of codes generated from videotapes of rehearsal sessions, field notes, and interviews revealed that teacher-directed instructional technique was the most utilised instructional strategy. Out of the ten bands, only two bands'

performance scores fell within the 'average' mark for tone/intonation. Four bands performed averagely well on technique and all ten bands performed 'poorly' on interpretation. There was a significant difference between the rehearsal strategies employed and students' performance. There was also a strong positive relationship between performance scores and rehearsal observation scores.

Keywords: School band, rehearsal strategy, music education, brass band, instrumental music pedagogy

1. Introduction

There are concerns about the quality and depth of the musical instruction from school musical performances due to the absence of an in-depth curriculum for band instruction in Ghanaian tertiary and teacher training institutions. At the university level, Music is studied in three of the five state universities in Ghana. However, only one – the University of Education, Winneba, is mandated with the responsibility to train Music teachers for both the basic and secondary levels (Flolu, 2004). As earlier stated, there is no curriculum for school band instruction even in the only institution responsible for the training of teachers. Students are only allowed to study a principal instrument (Western or African) known as an 'Applied instrument'. Despite the aforementioned deficiency in Ghanaian instrumental music teacher education, there is undoubtedly much enthusiasm for Music and the other arts in basic schools in Ghana. School marching bands are in existence and they play important roles during end-of-term celebrations, anniversaries, and regular occurrences and events highly valued for both educational and social reasons.

Several studies have been conducted to determine the components that contribute to effective instrumental music education and in this process, many variables and challenges, components of effective teaching have received attention from music education researchers. Among the general variables shown to influence student learning and performance include an instructor's teaching style, pedagogical techniques, personal attributes, and classroom environment (Madsen et al., 1989; Steele, 2010; Waller, 1965; Yarbrough, 1975). Personal characteristics attributed to effective teaching include a teacher's enthusiasm, energy level, sense of humor (Fox & Beamish, 1989; Kelly, 2007), experience (Madsen & Cassidy, 2005), and personality (Gordon & Hamann, 2001;

Kelly, 2007; Madsen et al., 1992; Rohwer & Henry, 2004; Teachout, 1997, 2001; Yarbrough, 1975). Instructional behaviours include a teacher's delivery style, delivery pace, creativity, flexibility (Fox & Beamish, 1989), the desire to help others (Gordon & Hamann, 2001), proximity to students (Madsen et al., 1989), and the extent to which students are involved in the learning process (Fox & Beamish, 1989).

There are two parts to this research. This paper is a sequel to a paper published in 2021 in the *Journal of the Musical Arts in Africa* providing information on strategies and approaches used by school band instructors about the teaching of beginning bands, which seem to range from limited to non-existent in Ghana. The belief was that investigating strategies and approaches adopted by basic school band instructors who currently teach beginning wind students might reveal strengths and/or weaknesses relating to school band instruction. Some of the weaknesses according to the available literature include fundamentals such as improper embouchure, breath control, posture, articulation, hand position, and fingering (Prodan, 2005). In this light, Dordzro (2021) revealed two specific methodologies adopted by school band instructors in Ghana which led to a better understanding of the teaching approaches used by Ghanaian school band directors.

Given the above, the current study intended to go a step further; to examine the impact of the two rehearsal strategies employed by basic school band directors in the Accra metropolis, as revealed in Dordzro (2021), on students' performance in terms of playing proficiency. Stemming from the purpose, the following research questions were formulated to guide the study: (1) What is the level of performance of basic school bands in the Accra metropolis on the performance dimensions? (2) To what extent do performances of school bands in the Accra metropolis differ from each other? (3) What relationship exists between different band instruction strategies and the quality of students' performance? (4) What is the relationship between performance and rehearsal observation scores?

Besides the research questions, null and non-directional alternative hypotheses, corresponding to research questions 2, 3, and 4 were also formulated and subjected to statistical testing to help establish the differences in performance scores of school bands and the possible relationship between students' performance and directors' instructional strategy.

Since the original study was mixed method and the instruments used were interview, observation, and a researcher-designed performance task, a pilot

study was conducted to ensure that the research instruments (semi-structured interview and observation guides as well as the performance task) measured what they intended to measure. Efforts were also made to reduce variability and all biases in the sample. Hence, the sample size was large enough to limit the effects of biases and as well variability was reduced by ensuring that the data was carefully collected. "Cultural validity" (Cohen et al., 2007, p. 139) as a limitation in this study stems from the fact that the performance evaluation form for measuring band instructors' teaching strategies and students' performance was designed and validated by people in a different cultural setting altogether. Considering the performance dimensions assessed, it may be that some of the dimensions are not the priority of the school band directors included in this study. Granted this is so, the cultural validity of using the performance evaluation form in Ghana and outside America may be highly reduced.

Indeed, the evaluation of works of art, even by professionals, is highly subjective (Bergee & McWhirter, 2005). To help minimize the influence of this problem, researchers have employed predetermined evaluative criteria in an attempt to improve reliability (e.g., Fiske, 1978; Hunter & Russ, 1996; Winter, 1993). Abeles (1973) asserts that "rating scales improve evaluation because adjudicators must use a common set of evaluative dimensions rather than develop their own subjective criticisms" (p. 246). Therefore the *Kentucky Music Educators Association performance evaluation form* (KMEA) was adapted and modified with the limitation mentioned above in mind.

2. Methodology

In educational research, the impact of teachers' practices and epistemological beliefs toward teaching and learning are investigated by using a qualitative methodology (e.g., observations, interviews); on the other hand, the other important outcome, students' academic achievement, provides strong criteria to measure the accomplishments of teachers (Chinn & Malhotra, 2002; Songer et al., 2003). In particular, students' performance on tests becomes crucial to evaluating educational settings and the impact of teachers' classroom practices (Wright et al. 1997). The foregoing statements informed the choice of the mixed method approach, specifically the convergent parallel design (Wittink et al., 2006) for this study; using qualitative data collection methods (Dordzro, 2021), and also employing quantitative data and statistical analyses to enrich perspective on the impact of teaching and learning strategies. A single primary dependent variable – band performance – was selected to maintain a clear

design and reduce confounding variables (Madsen & Madsen, 1970). The variable was measured using the Kentucky Music Educators Association Evaluator's Comment Sheet- Band Events (Compton, 2015). The type of rehearsal strategy, the various performing groups, and the performance dimensions served as the independent variable for this study. The researcher made use of three research instruments; observation (band rehearsal sessions), a semi-structured interview (for band instructors), and a researcher-designed performance task (for students). Performances of the school bands were video recorded and scored by three independent judges, to encompass the different aspects of the teacher-student holistic approach to teaching and learning. Ten out of nineteen functioning bands from different basic schools were selected based on the stratified and the random sampling with replacement or independent (within-sample) random sampling methods (Glenberg & Andrzejewski, 2008). All the ten school bands were located in the same township, approximately of the same size, and performed the same type of music for the past four years. Data collection in this second part of the project concentrated on the impact of directors' rehearsal strategies on students' performance. A Performance task scored by three independent judges provided continuous data for the quantitative analysis. The performances were rated on a corresponding numerical scale ranging from one to ten (one-meaning low use of the instrumental performance dimension and ten- meaning high use of the instrumental performance dimensions). The descriptive statistics, t-test, ANOVA, and correlations were computed.

3. Results and Discussion

The first stage of the study explored the rehearsal strategies adopted by basic school band directors in the Accra metropolis. This question was answered qualitatively by the observation of rehearsal sessions, field notes, and interviews. The five band directors selected for the interview were observed during five rehearsal sessions each. The selection of the band directors for the interview was done to represent the categories of band instructors who are currently in charge of Ghanaian basic school bands. The categories considered for the selection were: (1) instructors with postgraduate degrees, (2) instructors with first degrees, (3) instructors with diploma qualifications, (4) instructors who were Music teachers but did not play any wind instrument, and (5) instructors who were appointed because of their experience (e.g. retired military or police bandsmen). Descriptions began with demographic details, followed by specific data on the teaching and learning strategies used by participants, and concluded with general statements made during interviews. In all, two

instructional methods were revealed: the rote and the notation methods (see Dordzro, 2021). The main preoccupation of the current paper was to determine the effectiveness of the teaching methods mentioned above.

Research Question 1: What is the performance level of the school bands on the performance dimensions?

The first research question sought to determine the performance level of the school bands on the three performance dimensions using categorizations specified by the KMEA performance evaluation form. To achieve this, school band performances, scored under tone/intonation, technique, and interpretation using a corresponding numerical scale ranging from one to ten, were clustered into five categories using the descriptive scale terminology; Poor (1-2), Fair (3-4), Average (5-6), Good (7-8) and Excellent (9-10).

Table 1: ***Descriptive statistics of Band performance Level on Tone/Intonation***

Groups	Mean	Std. Deviation
Band 1	3.67	.33
Band 2	3.56	.50
Band 3	3.11	.50
Band 4	5.78	.69
Band 5	3.67	.33
Band 6	5.67	.50
Band 7	3.56	.50
Band 8	3.56	.50
Band 9	3.89	.50
Band10	3.22	.50
Grand mean	3.99	1.03

Scale: 1-2 poor, 3-4 fair, 5-6 average, 7-8 good and 9-10 excellent

Looking at the performances of the various school bands on tone/intonation (see table 1 above), the results revealed that out of the 10 bands studied, Bands 4 and 6 recorded the highest mean performance level (M = 5.78, SD = .97) and (M= 5.67, SD = .50) respectively; followed by Band 1 (M = 4.22, SD = 1.20), and the least mean value was recorded by Band 3 (M = 3.11, SD = .78). These mean values according to the performance scale suggested that Bands 4 and 6's performance could be classified as "average". This implies that Bands 4 and 6 (two out of the eight bands representing a minority) were the only groups that recorded an average performance under the Tone/intonation dimension while the majority (eight out of the ten bands) performed below the average. The performance of the remaining eight bands could be described as "fair". This means that in terms of performance elements such as sound quality, breath support and control, blend, and balance, it is only two bands' performances that could be described as average. This low performance recorded by the majority of the bands, according to judges' comments, could largely be attributed to incorrect embouchure, posture, and breathing techniques exhibited by the various school bands. Table 2 below summarizes judges' comments on tone/ intonation.

Table 2: ***Adjudicators' comments on Tone/Intonation***

Comments
Noticeable airiness in trumpets and saxophone sound production.
Extended lapses in trumpets and trombone tones for some sections of the piece.
Noticeable imbalances between woodwinds and brass in some sections of the music.
Very noticeable intonation issues in most part of the music.

One critical element that affects brass tone production is the development of the embouchure (the set of over 150 tiny muscles around the mouth that are engaged when playing any wind instrument). Developing a "proper" embouchure is nearly an obsession in western brass pedagogy (Rumbolz, 2000, p. 113). Several books on the subject prescribed just how the mouthpiece should be set upon the lips (eg. 1/3 on the upper and 2/3 on the lower) or how the teeth should be aligned (Farkus, 1962). Such refinements in brass band training are rare in Ghana and among Ghanaian basic schools. If a student can produce a sound, they generally work it completely by ear. Additionally, the consistently loud dynamics used by the school bands make maintaining a balanced embouchure nearly impossible. It is common to see wind instrumental players playing while puffing their cheek, or trumpet players using their fingers

to reinforce a weak embouchure by wrapping the left index finger around the mouthpiece or playing with a handkerchief pressed alongside the mouthpiece to keep the seal intact.

Another important factor that might contribute to the below-average performance on tone/intonation of most of the school bands has to do with tuning. This is another area among Ghanaian school bands where one finds divergence from normal practice. When I questioned school band directors about tuning, their responses seemed to suggest a lack of familiarity with the Western goal of "perfect" unisons and tuned intervals. Even with some of the most experienced instructors, basic misconceptions about tuning were evident. One band director said: "we don't tune our instruments because they are all made in one key and come from the same manufacturer." Another band director also told me that in the training of students, "tuning is not covered as it slows down the learning of keys".

The next dimension assessed was technique. Technique refers to the accuracy of notes/pitch, articulation, and rhythmic precision. Results are presented in Table 3.

Table 3: ***Descriptive statistics of Band performance Level on Technique***

Group	Mean	Std. Deviation
Band 1	4.33	.57
Band 2	4.00	.57
Band 3	4.44	.19
Band 4	4.89	.19
Band 5	4.11	.59
Band 6	4.78	.19
Band 7	4.11	.19
Band 8	4.67	.33
Band 9	4.44	.39
Band10	4.83	1.08
Grand mean	4.47	.51

Scale: 1-2 poor, 3-4 fair, 5-6 average, 7-8 good and 9-10 excellent

There seemed to be a slight improvement in the performance level on technique as compared to tone/intonation. Technique in this context includes performance elements such as note accuracy, articulation, and rhythmic precision. Bands 4, 6, 8, and 10 scored approximately 5.00 making their performance an "average' performance while the remaining six bands with means ranging from 4.00 to 4.44 still scored below average. This implies that, in terms of performance elements like articulation, the accuracy of notes, and the precision of rhythm, only four bands did averagely well. The performance of the remaining six bands could be described as "fair". In looking for possible explanations for the results, the judges revealed "poor air-starts, poor execution of notes and limitations in terms of students' inability to perform notes of the higher register clearly. Table 4 below summarizes the judges' comments on 'technique'.

Table 4: ***Adjudicators' comments on Technique***

Comments
Consistent wrong notes in trumpets and sometimes clarinets.
Pitch accuracy, especially in the higher registers consistently has wrong pitches.
The performance of rhythm is consistently accurate.
Minor lapses in rhythm but are quickly recovered.
Lapses in articulation is a common problem for all the bands.

Reasons for the almost perfect execution of rhythm revealed in Table 4 is difficult to discern from the data but may be attributed to the general notion among scholars that the most outstanding characteristic of African music is its emphasis upon rhythm as well as its percussive concept of music performance (Merriam, 1959; Kauffman, 1980, Agawu, 1995).

The last dimension considered was Interpretation. Interpretation connotes phrasing, tempo, expression, and dynamic variation.

Table 5: ***Descriptive statistics of Band performance Level on Interpretation***

Groups	Mean	Std. Deviation
Band 1	1.89	.59
Band 2	1.67	.33
Band 3	1.67	.33
Band 4	2.33	.33
Band 5	2.11	.50
Band 6	2.67	.33
Band 7	2.11	.39
Band 8	1.78	.59
Band 9	2.00	.33
Band10	1.67	.00
Grand mean	1.98	.45049

Scale: 1-2 poor, 3-4 fair, 5-6 average, 7-8 good and 9-10 excellent

Band performance on interpretation appears to have the lowest scores among the three performance dimensions. It was expected that the bands will be able to perform adequately well under this dimension, however, a cursory look at the means shows that the performance of all the 10 bands in terms of this dimension could be described as "poor". However, it is only Band 6 that recorded the mean value (M = 2.67, SD = .71) which is approximately 3.00 (Fair). Interpretation in this context connotes phrasing, tempo, expression, and dynamic variation which are elements that form what Seashore (1938) terms "expressive performance". Seashore (1938), who believed that "the medium of musical art lies primarily in artistic deviation from the fixed and regular" (p. 29), revealed that performers used many variations in intensity and duration to achieve expressive effect in music. Much research was conducted to substantiate Seashore's findings (Massie-Laberge et al., 2019; Gingras, 2014; Gabrielsson, 1987; Sundberg et al., 1983). These studies, which have been primarily analytical, reveal that performers manipulate dynamics and duration to achieve an expressive effect. As a general rule, dynamics increase and decrease with the rise and fall of the melodic contour. Duration varies in an opposite manner; note values decrease as the contour rises and increase as the contour falls. Duration increases also delineate phrases. Additionally, Nakumara (1987) and Geringer (1991, 1992)

have shown that expressive effect is readily perceived by both children and adults.

Considering these findings, it can be said that the ultimate aim of all school band instructors is to help their students perform music "expressively". Based on this, it can therefore be concluded that school band instructors were not working hard enough in terms of their general approach to school band instruction. Despite the presence of performance elements that suggests expressive performance in the pieces selected for study, there was not enough work done on the part of the directors to elicit expressive performances from their bands (field notes and observation videos confirm this). In an attempt to give possible explanations for this phenomenon, some of the comments the judges made for the poor performance on interpretation were that "the conductors were time 'beaters'," "expressions were not well executed" and the fact that "there was a complete lack of attention given to any performance element by the directors".

Research Question 2: What is the difference in the performance scores of the various school bands?

To answer this question, a corresponding hypothesis that stated a no difference in the performance scores of the school bands was set and tested. In assessing if there was a significant difference among the various school bands, the one-way analysis of variance (ANOVA) was computed, and the results are summarized in Table 6 below. The analysis of the variance is the most suitable statistical tool since the interest was in comparing the scores from more than two populations (10 bands). One-way ANOVA involves one factor (students' performance), and multiple treatments (school bands). Table 6 presents a summary of the results.

Table 6: ***Descriptive Statistics of Bands' performance***

Group	Mean	Std. Deviation
Band 1	10.44	1.59
Band 2	9.22	.83
Band 3	9.22	1.09
Band 4	13.00	2.06
Band 5	9.89	1.27
Band 6	13.11	1.45
Band 7	9.78	1.48
Band 8	10.00	1.58
Band 9	10.33	1.12
Band10	9.78	.97

From Table 6, it can be observed that Band 6 recorded the highest mean performance with a mean value (M = 13.11, SD = 1.45), followed by Band 4 (M = 13, SD = 2.06). This means that, on average, the band whose performance was adjudged highest was Band 6. Again, Bands 1, 9 and 8 were the next group of bands whose mean performance ranged from 10.00 to 10.44. It is however, important to note that, Bands 2 and 3 recorded the least mean values in terms of their performance (M = 9.22) for each of the two bands. The mean values suggest a difference between the various bands; however, whether these differences were significant or not was determined by the ANOVA results in Table 7 below.

Table 7: ***ANOVA Results of Bands***

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	162.233	9	18.026	9.351	.000*
Within Groups	154.222	80	1.928		
Total	316.456	89			

**Significant at 5%*

From Table 7, the null hypothesis was rejected. Using an alpha = 0.05, the means (see table 9 above) were significantly different $F(9, 80) = 9.35$, $MSW = 1.93$. This

implies that the mean differences in performance recorded between the various Bands are statistically significant. A post hoc analysis was carried out using the Fisher's Least Significant Difference (LSD) which is a tool used to identify which pairs of means are statistically different. The results are presented in Table 8 below.

Table 8: ***Post hoc analysis for the ANOVA results***

	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.
LSD	Group1	Group2	1.22222	.65452	.066
		Group3	1.22222	.65452	.066
		Group4	-2.55556*	.65452	.000*
		Group5	.55556	.65452	.399
		Group6	-2.66667*	.65452	.000*
		Group7	.66667	.65452	.311
		Group8	.44444	.65452	.499
		Group9	.11111	.65452	.866
		Group10	.66667	.65452	.311
	Group2	Group1	-1.22222	.65452	.066
		Group3	.00000	.65452	1.000
		Group4	-3.77778*	.65452	.000*
		Group5	-.66667	.65452	.311
		Group6	-3.88889*	.65452	.000*
		Group7	-.55556	.65452	.399
		Group8	-.77778	.65452	.238
		Group9	-1.11111	.65452	.093
		Group10	-.55556	.65452	.399
	Group3	Group1	-1.22222	.65452	.066
		Group2	.00000	.65452	1.000
		Group4	-3.77778*	.65452	.000*
		Group5	-.66667	.65452	.311
		Group6	-3.88889*	.65452	.000*
		Group7	-.55556	.65452	.399
		Group8	-.77778	.65452	.238
		Group9	-1.11111	.65452	.093
		Group10	-.55556	.65452	.399

Group4	Group1	2.55556*	.65452	.000*
	Group2	3.77778*	.65452	.000*
	Group3	3.77778*	.65452	.000*
	Group5	3.11111*	.65452	.000*
	Group6	-.11111	.65452	.866
	Group7	3.22222*	.65452	.000*
	Group8	3.00000*	.65452	.000*
	Group9	2.66667*	.65452	.000*
	Group10	3.22222*	.65452	.000*
Group5	Group1	-.55556	.65452	.399
	Group2	.66667	.65452	.311
	Group3	.66667	.65452	.311
	Group4	-3.11111*	.65452	.000*
	Group6	-3.22222*	.65452	.000*
	Group7	.11111	.65452	.866
	Group8	-.11111	.65452	.866
	Group9	-.44444	.65452	.499
	Group10	.11111	.65452	.866
Group6	Group1	2.66667*	.65452	.000*
	Group2	3.88889*	.65452	.000*
	Group3	3.88889*	.65452	.000*
	Group4	.11111	.65452	.866
	Group5	3.22222*	.65452	.000*
	Group7	3.33333*	.65452	.000*
	Group8	3.11111*	.65452	.000*
	Group9	2.77778*	.65452	.000*
	Group10	3.33333*	.65452	.000*
Group7	Group1	-.66667	.65452	.311
	Group2	.55556	.65452	.399
	Group3	.55556	.65452	.399
	Group4	-3.22222*	.65452	.000*
	Group5	-.11111	.65452	.866
	Group6	-3.33333*	.65452	.000*
	Group8	-.22222	.65452	.735

	Group9	-.55556	.65452	.399
	Group10	.00000	.65452	1.000
Group8	Group1	-.44444	.65452	.499
	Group2	.77778	.65452	.238
	Group3	.77778	.65452	.238
	Group4	-3.00000*	.65452	.000*
	Group5	.11111	.65452	.866
	Group6	-3.11111*	.65452	.000*
	Group7	.22222	.65452	.735
	Group9	-.33333	.65452	.612
	Group10	.22222	.65452	.735
Group9	Group1	-.11111	.65452	.866
	Group2	1.11111	.65452	.093
	Group3	1.11111	.65452	.093
	Group4	-2.66667*	.65452	.000*
	Group5	.44444	.65452	.499
	Group6	-2.77778*	.65452	.000*
	Group7	.55556	.65452	.399
	Group8	.33333	.65452	.612
	Group10	.55556	.65452	.399
Group10	Group1	-.66667	.65452	.311
	Group2	.55556	.65452	.399
	Group3	.55556	.65452	.399
	Group4	-3.22222*	.65452	.000*
	Group5	-.11111	.65452	.866
	Group6	-3.33333*	.65452	.000*
	Group7	.00000	.65452	1.000
	Group8	-.22222	.65452	.735
	Group9	-.55556	.65452	.399

**The mean difference is significant at the 0.05 level.*

From Table 8, it can be observed that, with the exception of Bands 4 and 6 which seem to have no significant difference between their means, there is a significant difference between the means of Band 4 and all the other bands and

also Band 6 and all the other bands. This implies that, the mean performances for the remaining bands significantly differ from that of Bands 4 and 6.

In an attempt to explain the significant difference in the scores of the various school bands, the demographics of the bands were considered. This was informed by several studies that have compared the differences among teachers with various levels of qualification and experience using categories such as expert, experienced, novice, student, and preservice teachers (Cavitt, 2003; Goolsby, 1996/1997; Worthy, 2002; Yarbrough & Price, 1989). There was the need to pay particular attention to Bands 4 and 6 since they consistently performed relatively better than the rest of the bands on all the performance dimensions. Therefore, demographics such as instructors' qualifications, teaching experience, and number of rehearsal sessions per week (among others) might be the possible factors creating the disparity in performance scores. Apart from employing rehearsal strategies that differed from that of the other bands, it is interesting to note that the Band directors of Bands 6 and 4 were the directors with the highest qualifications (master's and bachelor's degrees respectively) at the time the study was conducted. The bands with the most frequent rehearsal schedules and also the bands with the most experienced directors with 25 and 19 years of experience respectively. Therefore, it was no coincidence at all that these two bands performed better than the other eight bands. This finding corroborates Goolsby's (1999) study that found significant differences ($p < .01$) between novice and expert teachers' ensemble performance scores when preparing the same composition.

Research Question 3: What is the difference in the performance scores of school bands that use different strategies?

To answer the question, a corresponding hypothesis that stated no difference in the performance scores of school bands that use different strategies was set and tested. An independent t-test was computed. Table 9 presents a summary of the results.

Table 9: ***Independent t-test showing the difference between strategy and performance***

Strategy	M	SD	T	Df	ρ
Rote	9.83	1.28	-8.878	88	.000
Staff Notation	13.06	1.73			

**Significance level .05*

From the above table, it can be observed that, the mean values for bands that used Staff Notation for their rehearsals is relatively higher (M = 13.06, SD = 1.73) than the mean score obtained by bands that applied rote method as a means for studying new pieces (M = 9.83, SD = 1.28). To determine whether this difference was significant, an independent t-test was conducted. From Table 9 above, the Levene's Test for Equality of variances was used to determine whether the difference in performance was significant. The null hypothesis was rejected with mean performance of bands that employed the Notation strategy (M = 13.06, SD = 1.73) significantly higher (t = -8.878, df = 88, two-tailed probability < .05) than the performance of bands that were taught using the Rote strategy (M = 9.83, SD = 1.28).

This result simply means that school bands that used the staff notation approach performed better than school bands that used the rote learning approach. This implies that the staff notation approach is more effective than the rote learning approach. This result reiterates the importance of the band directors' strategy as an important factor in determining the success of a school band programme. Almost all instrumental music instructors have had students drop out of a programme because the students ostensibly disliked the directors' style of delivery (Fortney et al., 1993). Many proposed alternatives in philosophy and practice can be found among the international scholarly literature on band (Allsup & Benedict, 2008; Bazan, 2011; Beitler, 2012; Brown, 2012; Djordjevic, 2007; Elliott, 2005; Holsberg, 2009; Inzenga, 1999; Reynolds & Beitler, 2007). These views on band instruction include comprehensive musicianship, technology integration, focus on critical thinking, implementation of the national standards, cooperative and collaborative learning, reflective practices, constructivism, self-assessment, ArtsPROPEL, and student-centered classes. Although some authors and educators have advocated approaches to instrumental music teaching and learning that could be considered more effective (e.g., Labuta, 1997; Schleuter, 1997; O'Toole, 2003), there may be several reasons why band directors hesitate

to change their teaching styles, including: (a) historical precedents set by prior directors (Jorgensen, 2003), (b) an established pedagogy based on historical precedence, research, and observation (Goolsby, 1996, 1997, 1999; Cavitt, 2003), (c) poor reception by some students or teachers (Kelly, 1972; Mackworth-Young, 1990), and (d) lack of awareness on how to implement the proposed instructional methods (Meyer, 2000; Confer, 2001). Specific factors that may cause Ghanaian band teachers to favour one instructional strategy over another need to be investigated.

Research Question 4: What is the relationship between students' performance and rehearsal?

Finally, to explore the relationship between performance scores and rehearsal observation scores, Pearson's correlation coefficient was employed. The relationship between students' performance scores (as measured by the KMEA evaluation form) and rehearsal observation scores (as measured by the KMEA evaluation form) was investigated using Pearson product-moment correlation coefficient. Table 10 below summarizes the results.

Table 10: *Correlation between Performance scores and Rehearsal observation scores*

		Performance scores	Rehearsal observation scores
Performance scores	Pearson Correlation	1	.878**
	Sig. (2-tailed)		.000
	N	90	90
Rehearsal observation scores	Pearson Correlation	.878**	1
	Sig. (2-tailed)	.000	
	N	90	90

***. Correlation is significant at the 0.01 level (2-tailed).*

Results in Table 10 (above) reveal that there exists a statistically significant strong linear relationship between students' performance and rehearsal ($r(90) = .878$, $p < .01$). This implies that the performance elements or behaviours demonstrated by the instructors in rehearsal sessions, behaviours which were impacted and were absorbed by the students, were the same behaviours demonstrated by students' during their performance.

4. Conclusions

Based on the above findings, the study concluded on the following: Wind band instruction among basic schools in the Accra metropolis is done using two main strategies: teaching by rote and the staff notation approach (Dordzro, 2021). Instructional strategies employed by basic school band instructors seem not to be the most effective. Inasmuch as these instructional models can be said to be the main contributing factors, the level of performance of the various school bands cannot be the sole result of the two instructional strategies, since confounding variables such as private instruction, participation in church/ town bands, instructors' qualification, rehearsal scheduling among others may also be contributing factors. The performance of basic school bands in the Accra metropolis on the various performance dimensions was generally below average. This conclusion is based on the descriptive scale terminologies (poor, fair average, good and excellent) found on the performance evaluation form adopted for this study.

Proper embouchure, breathing, and posture are regarded as high priorities when teaching beginning-level band, as well as developing the proper quality of tone (Worthy, 2002). However, the latter did not seem to be the case with the instructors included in this study. Observation of rehearsal sessions revealed most rehearsal time was spent teaching: fingering/slide-positions, and new or perfecting old pieces. It was evident that students were using their fingers to reinforce a weak embouchure by wrapping the left index finger around the mouthpiece or playing with a handkerchief pressed alongside the mouthpiece to keep the seal intact. Some also played with puffed cheeks; which are all indications of a weak embouchure. Comments made by the judges suggest that a substantial number of young wind players do not use their tongues correctly when articulating. In addition to general misuse of the tongue, many students use air-start as the primary way to initiate a musical tone rather than the tip of the tongue. Once acquired, these habits can be difficult to correct and can lead to frustration for both student and teacher. It is therefore my hope that this

study will lead to more informed pedagogical practices regarding how to teach young wind players to articulate correctly.

Lastly, data from the interview revealed that basic school band instructors in the Accra metropolis rely more on chorale pieces than pieces written specifically for school wind bands when selecting repertoire for events.

5. Implications for Instrumental Music Education

Firstly, the findings seem to suggest that the strategies currently employed by basic school band directors in the Accra metropolis are not 'very effective'. Therefore, I recommend that teachers look at other alternative methods of instruction. Many proposed alternatives in philosophy and practice can be found in the international scholarly literature on bands. These alternative views include comprehensive musicianship, technology integration, focus on critical thinking, and implementation of the national standards, cooperative and collaborative learning, reflective practices, constructivism, self-assessment, Arts PROPEL, and student-centered classes

Repertoire, according to Reynolds (2000), is to serve as the curriculum for performance ensembles, therefore the importance of the process used by the band director to select a repertoire for his or her ensemble becomes critical. School band instructors in the Accra metropolis should endeavour to select repertoire specifically composed for school wind bands since "literature chosen for preparation in the ensemble provides the teaching materials used by the instructor to teach musical concepts as well as the techniques that are specific to the various band instruments." (Hayward, 2004, p. 2). Also, accurately formed embouchure and posture, combined with efficient and consistent use of air, are important aspects of producing appropriate tone and accurate intonation on wind instruments (Worthy, 2002). Developing a strong, proper embouchure requires close attention and a constant reminder from the instructor to be certain that students implement correct formations. Consulting a variety of sources, including books, articles, or sessions with colleagues or professional specialists, may provide helpful information on useful warm-up exercises that will facilitate proper formations of embouchures. Whereas some professionals emphasize the importance of teaching accurate intonation at the beginning of instrumental music study (Lenzini, 1999; Stycos, 1993; Worthy, 2002), Smith (2004) has argued that aspects of intonation should be addressed only when students have learned notes and rhythms of their study material, and have developed fundamental performance skills such as proper formation of embouchure and production of

tone. Further, teachers must make sure students learn tuning adjustments that should be made with the embouchure in correlation with fingerings (Smith, 2004).

Furthermore, research results have indicated that conductors' demonstration of frequent and sustained eye contact, expressive gestures and varied facial expressions during performance positively affected ensembles' expressivity. Therefore, workshops and band clinics should be organized for school band instructors to help them build on their instructional strategies and conducting skills.

Finally, band instructors may consider recommendations for professional brass/ woodwind players and instrumental specialists by implementing video and audio models more often in their instruction and by requiring or providing private instruction.

6. Suggestions for Further Research

The study presented must be viewed as an exploratory study of school band directors' instructional models in the Accra metropolis of Ghana. The expansion of the sample to cover school bands from other educational districts and regions of the country will be necessary to encompass a broader perspective on the teaching strategies adopted by Ghanaian school band instructors. Continued study on how Music teachers, especially Ghanaian teachers, develop the teaching and learning strategies they employ would be an important contribution to the literature. In particular, investigations should be conducted as to what specific factors may cause Ghanaian band teachers to prefer one rehearsal model over other rehearsal models. The relationships between other theories of teaching and the strategies identified in this study should also be explored.

Although many descriptive studies contribute to an understanding of the dynamics of instrumental music rehearsals, each is also limited, either by a small sample or by analysis of short portions of rehearsals. A more complete examination of the teaching behaviors of experienced and successful band directors could broaden the baseline of descriptive data for instrumental ensemble rehearsals, which in turn might lead to future studies identifying additional characteristics of outstanding directors. Whether band programmes are appropriate environments for IQ development requires philosophical discussion and experimental investigation. Specifically, what is the difference in effect within the band programme among schools using different strategies?

Do the learning outcomes of alternative rehearsal approaches outweigh the benefits of a curriculum dedicated to music performance? Furthermore, I advocate for continued exploration of a comprehensive inventory of the most effective instructional strategies that can be implemented in the school band setting.

Finally, the initial attempt to empirically have better knowledge of success is with expert conductors/teachers. Therefore, investigating the tasks, techniques, and behaviors used by expert teachers to consistently produce high-performance levels could provide a sounder teaching approach, which may be more generalized to a broader segment of teachers. Furthermore, such investigations could offer an additional understanding of successful skills and knowledge that add more insight for Music teacher training programmes.

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