



Teaching Styles of Educators in Higher Education in Eritrea: Teacher-centred or Student-centred?

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Abstract

To meet the demands of twenty-first-century educational needs in Eritrea, the country required the education sector to replace passive learning and didactic pedagogy with interactive learning and student-centred pedagogy. In line with reform initiatives, teacher education programmes aim to prepare student teachers to increase their prospective students' participation in the classroom. The purpose of the study on which this article is based was to find out the extent to which educators used student-centred strategies in realising the reform initiatives. The methodology adopted was survey research design. A questionnaire based on the Principles of Adult Learning Scale was used to generate data from sixty-one educators at two teacher education institutions, namely the College of Education of the Eritrea Institute of Technology and Asmara Community College of Education. While student-centred teaching has been advocated, the findings indicate that teacher-centred teaching dominates instructional settings. Moreover, the study examined the relationship between teaching styles and the demographic features of educators using an analysis of variance. No significant differences were found between teaching styles and various demographic aspects of the teacher educators.

Résumé

Pour répondre aux exigences des besoins éducatifs du XXI^e siècle en Érythrée, le pays a demandé au secteur de l'éducation de remplacer l'apprentissage passif et la pédagogie didactique par un apprentissage interactif et une pédagogie centrée sur l'étudiant. Conformément aux initiatives de réforme, les programmes de formation des enseignants visent à préparer les futurs enseignants à améliorer la participation de leurs futurs étudiants en classe. L'objectif de l'étude sur laquelle se base cet article était de déterminer dans quelle mesure les éducateurs ont

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utilisé des stratégies centrées sur l'étudiant dans la mise en œuvre des initiatives de réforme. La méthodologie de recherche adoptée est celle de l'enquête. Un questionnaire basé sur les principes de l'échelle d'apprentissage des adultes a été utilisé pour générer des données auprès de soixante et un enseignants dans deux institutions de formation d'enseignants, à savoir le College of Education de l'Institut de Technologie d'Érythrée et l'Asmara Community College of Education. Bien que l'enseignement centré sur l'étudiant ait été préconisé, les résultats indiquent que les cadres pédagogiques sont fortement empreints d'un enseignement centré sur l'enseignant. En outre, l'étude a examiné la relation entre les styles d'enseignement et les caractéristiques démographiques des enseignants en utilisant une analyse de la variance. Aucune différence significative n'a été trouvée entre les styles d'enseignement et les divers aspects démographiques des formateurs d'enseignants.

Introduction

To meet the demands of twenty-first-century educational needs in Eritrea, transformation of the education sector was required to replace passive learning and didactic pedagogy with interactive learning and student-centred pedagogy (MoE 2003; 2008). Teacher educators in higher education settings in the country were identified as crucial for implementing changes such as these (Fullan 2001) and in contributing to student achievement (Darling-Hammond and Young 2002; Seidel and Shavelson 2007). As agents of change, teacher educators are deemed important for student teachers to acquire knowledge, explore ideas, think critically, solve problems, and work collaboratively to become productive citizens (Hunt 2009). They are expected to model behaviours and strategies that student teachers can observe and imitate (Lunenberg, Korthagen and Swennen 2007). Therefore, it is important to explore how teacher educators approach their own teaching to facilitate student teachers becoming qualified future teachers.

Much scholarly work proceeds from the view that learning is effective when teacher educators use student-centred approaches (Lea, Stephenson and Troy 2003; O'Neill and McMahon 2005; Kitot, Ahmad and Seman 2010; Tabulawa 2013). In line with constructivist approaches to making meaning, a student-centred approach places the emphasis on active learning opportunities where students are able to build on the knowledge they already have instead of rote learning, which fails to work with the students' own knowledge and perspectives (Bada 2015). Student-centred approaches are deemed to be effective alternatives to teacher-centred approaches because of their focus on what students do in order to learn rather than on what teachers do in order to teach. Student-centred approaches are accordingly believed to enhance student performance.

In the Eritrean context, teacher-centred teaching has been the dominant mode of instruction for a very long time. However, it has been challenged for failing to produce quality graduates. As a result, several educational reforms were introduced over the past two decades to improve the quality of education (MoE 2003; 2008). The reforms advocate for teachers to shift their mode of instruction from teacher-centred to student-centred approaches to produce higher-quality learning outcomes (MoE 2008). This shift requires a fundamental change in the role of the educators from that of a didactic teacher to that of a facilitator of learning. In student-centred approaches, students are viewed as active participants rather than recipients of ready-made factual knowledge (Tabulawa 2013). Educators are required to use a range of innovative instructional approaches that promote active learning. The commitment to student-centred pedagogy poses new challenges in bridging the gap between the theory and the practice of teaching.

Teachers' conceptions about teaching stem from their own learning as primary, secondary and tertiary education students, and this goes on to affect their teaching styles (Lortie 1975; Elliott 1996; Stitt-Gohdes 2001). Studies indicate that teaching styles relate to teachers' conceptions of teaching (Lindblom-Ylänne, Trigwell, Nevgi et al. 2006), which in turn are related to students' approaches to learning (Trigwell, Prosser and Waterhouse 1999). When teachers focus on teacher-centred approaches, they are more likely to have students who subscribe to a shallow and superficial approach to learning; conversely, teachers who adopt student-centred approaches are more likely to have students who adopt the deeper approach to learning (*ibid.*). Considering these developments in the education system, this article explores teacher educators' conceptions of teaching, which determine how they approach their teaching and the way their students approach learning. The study on which this article is based applies the Principles of Adult Learning Scale (PALS) to answer the following two questions:

1. To what extent do teacher educators in Eritrea use a student-centred teaching style?
2. To what extent do demographic features affect the teaching style of teacher educators?

Teaching Styles

Teaching style is a broad concept used to describe the decisions made during planning, delivery and evaluation of lessons. According to Grasha (2002), teaching styles refer to the behaviours involving the transfer of knowledge by teachers in their interactions with students. But teaching style is a broader concept than this and encompasses specific teaching strategies that teachers

use to accomplish specific instructional objectives (Conti 1985; 1990). These strategies are guided by teachers' underlying educational philosophy, their interpretations of the world and their actions within it (Zinn 1990). Their personal characteristics and learning experiences also shape their teaching style (Lortie 1975; Elliott 1996).

Mosston (1981) places teaching styles along a continuum ranging from styles that promote reproduction (allow minimum student decisions) to ones that promote production (allow maximum student decisions). Conti (1985; 1990) condenses teaching styles into two fundamental categories, namely teacher-centred and student-centred styles. Kembel (1997) identifies teacher-centred styles as content-oriented approaches that focus on imparting and transmitting structured knowledge and student-centred styles as learning-oriented approaches that facilitate understanding and promote intellectual development. Student-centred approaches place the emphasis on collaboration, active participation and construction of knowledge as opposed to passive absorption of information by the students (Conti 1985; 1990; Little 1993; Schaefer and Zygmunt 2003; Carl 2008; Loucks-Horsley et al. 2010).

Investigating the teaching styles of teacher educators in Eritrea was significant for three reasons. Firstly, an awareness of teaching styles is important because it allows teacher educators to examine and improve their teaching (Conti 1985; 1990). Secondly, the teaching style that educators adopt influences the learning environment, which in turn determines the achievement of student teachers (Kuchinskas 1979; Schaefer and Zygmunt 2003). Finally, there is a direct relationship between the way student teachers are taught and the way they would teach when they are deployed in schools (Lieberman 1995; Stigler and Hiebert 1999; Darling-Hammond 2006; Loucks-Horsley et al. 2010). This article is guided by the premise that if teacher educators use student-centred teaching styles in their classroom, the student teachers will use the same teaching strategy when they are appointed as teachers.

Although teacher-centred approaches are widely practised in education, student-centred approaches are strongly supported in the literature. To fully understand the teaching styles of teachers, Conti (1985; 1990) developed the PALS to determine whether the teaching styles of educators fall predominantly under the teacher-centred or the student-centred approach. He developed this instrument based on principles of adult learning and identified seven factors that influence the nature of the teaching-learning environment. The established mean values for each factor are presented in Table 2. As high scores on the individual factors indicate more of a student-

centred style, so low scores reveal more of a teacher-centred style in a specific area. Moreover, the aggregate score on the PALS gives an indication of a teacher's overall teaching style. High combined scores above the mean of 146 on the PALS reflect the adoption of a student-centred teaching style, whereas scores below the mean indicate the use of a teacher-centred style. Scores near the mean indicate a combination of teaching behaviours that draw from both student-centred and teacher-centred approaches (*ibid.*).

Method

Participants

A total of 61 educators (11 females and 50 males) from two teacher education institutions in Eritrea participated in this study. Of these participants, 38 (62.3 per cent) were from Eritrea Institute of Technology (EIT) and 23 (37.7 per cent) from Asmara Community College of Education (ACCE). The age of the participants ranges from 20–39 years. Of these educators, 7 (11.5 per cent) had a PhD, 28 (45.9 per cent) a master's degree and 26 (42.6 per cent) a bachelor's degree. The demographic data also indicate that the years of teaching experience of the educators ranges from two to 52, with an average of 17.9 years. The teaching experience of just over 55 per cent of the participants ranges from two to 15 years. Their years of service in the respective institutions range from less than one to 21.5 years, with a mean of 4.8 years. About 62 per cent of the participants were newly employed educators. The workload of the educators ranged from three to 24 hours per week, with an average of 10 hours per week (see Table 1).

Instrumentation

A PALS instrument was used to ascertain the teaching style of educators in Eritrea as either teacher-centred or student-centred (Conti 1985; 1990). Although the PALS was originally designed to measure teaching style in adult basic education settings, it has been widely used to assess teaching style in higher education, as in the case of this study (Schaefer and Zygmunt 2003; Dupin-Bryant 2004; Barrett, Bower and Donovan 2007; Ahmed 2013; Peters 2013; Yoshida, Conti, Yamauchi et al. 2014). The instrument contained forty-four items that required educators to rank their activities on a six-point Likert scale. It has proved to be a valid and reliable instrument for determining the teaching style of teachers, including at higher education institutions (Schaefer and Zygmunt 2003; Dupin-Bryant 2004; Barrett, Bower and Donovan 2007; Ahmed 2013; Peters 2013; Yoshida, Conti, Yamauchi et al. 2014).

Table 1: Demographic features of the participants

Demographic features		EIT		ACCE		Total	
		N	%	N	%	N	%
Total sample		38	62.3	23	37.7	61	100.0
Gender	Male	31	81.6	19	82.6	50	82.0
	Female	7	18.4	4	17.4	11	18.0
Age	20–29	6	15.8	0	0	6	9.8
	30–39	17	44.7	8	34.8	25	41.0
	40–49	9	23.7	6	30.4	15	26.2
	50–59	3	7.9	3	13	6	9.8
	60–69	2	2.6	6	26.1	8	13.1
	70+	1	2.6	0	0	1	1.6
Qualification	BA	15	39.5	11	47.8	26	42.6
	MA	16	42.1	12	52.2	28	45.9
	PhD	7	18.4	0	0	7	11.5
Workload (teaching hours per week)	3–5	8	21.1	1	4.3	9	14.8
	6–10	18	7.4	4	17.4	22	36.1
	11–15	11	28.9	12	52.2	23	37.7
	16–20	1	2.6	4	17.4	5	8.2
	21–24	0	0	2	8.7	2	3.3
Total teaching experience	2–5	7	18.4	1	4.3	8	13.1
	6–15	19	50	7	30.4	26	42.6
	16–25	6	15.8	6	26.1	12	19.7
	26–35	5	13.2	4	17.4	9	14.8
	36–45	0	0	4	17.4	4	6.6
	46–52	1	2.6	1	4.3	2	3.3
Experience in current institution	0–5	27	71.1	11	47.8	38	62.3
	6–10	11	28.9	6	26.1	17	27.9
	11–15	0	0	4	17.4	4	6.6
	16–20	0	0	1	4.3	1	1.6
	21–25	0	0	1	4.3	1	1.6

The items are classified into seven factors that make up the basic elements of a teaching style, namely student-centred activities, personalising instruction, relating to the students’ experience, assessing students’ needs, climate building, students’ participation in the learning process, and flexibility to allow for students’ personal development (Conti 1985; 1990). For each item, the

participants were requested to select either N (Never), AN (Almost Never), S (Seldom), O (Often), AA (Almost Always) or A (Always) to indicate the degree of their agreement with the statement. Values ranging from 0 to 5 are assigned for each of the above responses. Since the scale contained both positive and negative items, different values were assigned. The values assigned to the positive items were N = 0, AN = 1, S = 2, O = 3, AA = 4 and A = 5, whilst for the negative items N = 5, AN = 4, S = 3, O = 2, AA = 1 and A = 0 were assigned. Excluded items were assigned a neutral value of 2.5. The total scores on the items could range from 0 to 220, indicating the teaching styles.

After generating the scores for each of the factors, the overall scores were compared to the established mean (146) and standard deviation (20) to determine whether the teaching style is teacher-centred or student-centred. Scores above 146 indicate student-centred style, whereas scores lower than 146 suggest preference for a teacher-centred style. The established mean values for each factor are presented in Table 2. High scores on the individual factors indicate more of a student-centred style, whereas low scores reveal a more teacher-centred style in that area (*ibid.*).

In addition to responding to the questions in the questionnaire, educators were requested to provide their personal information such as the institution to which they belonged, gender, age, qualifications, workload, total teaching experience, and experience in their current institution. These demographic data were correlated with overall teaching style of the educators. The seven factors composing the instrument are briefly discussed below.

Factor 1: Student-centred Activities

According to Conti this factor is made up of 12 negative items (2, 4, 11, 12, 13, 16, 19, 21, 29, 30, 38 and 40). The scores for this factor may range from 0 to 60. This factor reveals the extent to which educators incorporate student-centred activities such as group discussion, individual research papers and presentations into their teaching. These practices encourage students to take the initiative and responsibility for their own learning. Teachers who score high on this factor emphasise the importance of students and student-centred activities in their teaching (*ibid.*).

Factor 2: Personalising Instruction

According to Conti, this factor contains six positive (3, 17, 24, 32, 35 and 42) and three negative items (9, 37, and 41). The scores for this factor may range from 0 to 45. Teachers who score high on this factor primarily use student-centred approaches and their emphasis is on student cooperation rather than competition (*ibid.*).

Factor 3: Relating to Students' Experience

This factor consists of six positive items on the instrument, namely 14, 31, 34, 39, 43 and 44. The total possible score for this factor ranges from 0 to 30. Teachers who score high on this factor attempt to enhance the participation of students by contextualising their teaching related to students' experiences (*ibid.*).

Factor 4: Assessing Students' Needs

This factor contains four positive items, namely 5, 8, 23 and 25. The total possible scores for this factor range from 0 to 20. Conti (*ibid.*) notes that this factor reflects the extent to which teachers find out what each student needs to know. Educators can assess students through either arranging individual conferences or informal counselling meetings. High scores on this factor indicate teachers' emphasis on student-centred teaching (*ibid.*).

Factor 5: Climate Building

This factor contains four positive items, namely 18, 20, 22 and 28. The total possible scores for this item range from 0 to 20. Conti (*ibid.*) acknowledges climate building as an essential element in creating a student-centred environment. This factor reveals the extent to which teachers create a friendly and favourable classroom environment that encourages dialogue and interaction among students. Educators who score high on this factor create a favourable environment where risk-taking is encouraged and errors are accepted as part of learning (*ibid.*).

Factor 6: Students' Participation in the Learning Process

This factor contains four positive items, namely 1, 10, 15 and 36. The total possible scores for this factor range from 0 to 20. Conti (*ibid.*) notes that student participation is a critical component in creating successful learning. Teachers who score high on this factor are those who encourage students to identify the problems that they wish to solve and allow them to choose topics that will be covered in class (*ibid.*).

Factor 7: Flexibility for Students' Personal Development

This factor contains five negative items (6, 7, 26, 27 and 23). The total possible scores for this factor range from 0 to 25. Low scores on this factor indicate that the teachers are providers of knowledge rather than facilitators of learning (*ibid.*).

Procedure

After obtaining permission from the relevant authorities, a questionnaire was distributed in the two teacher education institutions. From a total of seventy-four questionnaires, sixty-six were collected with a return rate of 89.2 per cent. Out of the returned questionnaires five were discarded because they were not complete, making a usable rate of 92.4 per cent. The participants were assured that the information they provided would be used only for research purposes. To protect their identity, the participants were not requested to give their names.

Results and Discussion

Descriptive statistics such as mean and standard deviation were used to analyse the data and answer the two research questions.

To answer the first research question, ‘To what extent do teacher educators in Eritrea use a student-centred teaching style?’, the means and standard deviation obtained for this study were compared with the established values of PALS (see Table 2). The total mean score for this study ($M = 119.69$; $SD = 14.47$) was found to be lower than the established mean values for the instrument, indicating that the teaching style of educators in Eritrea is geared towards teacher-centred rather than student-centred teaching. Analysis of individual scores reveals a very strong teacher-centred style, with scores consistently less than 146 points (see Figure 1).

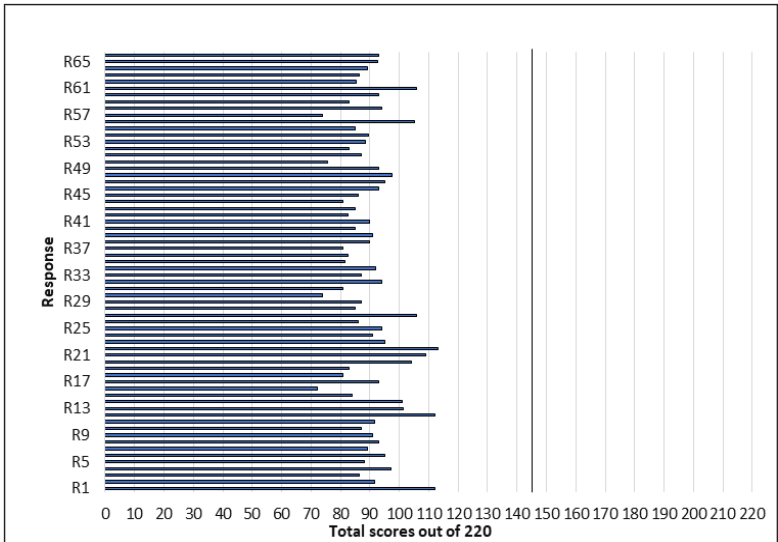


Figure 1: Individual respondents’ score

This finding corroborates earlier studies conducted using PALS (Dupin-Bryant 2004; Schaefer and Zygmunt 2003; Liu, Qiao and Liu 2006; McCoy 2006). The mean score for the current study was also found to be lower than the values reported in studies that were conducted to determine the teaching style of instructors in higher education intuitions (Schaefer and Zygmunt 2003; Dupin-Bryant 2004; Barrett, Bower and Donovan 2007; Ahmed 2013). Therefore, it can be concluded that teacher-centred teaching is the dominant style adopted in the two selected teacher education institutions.

Table 2: Comparison of the established mean values with study values

Factor	Established values	Study values						
		EIT		ACCE		Overall		
	M	SD	M	SD	M	SD	M	SD
Student-centred activities	38	8.3	23.45	9.74	23.35	6.60	23.41	8.63
Personalising instruction	31	6.8	23.05	4.87	23.65	4.77	23.28	4.80
Relating to students' experience	21	4.9	24.24	3.52	22.48	4.12	23.57	3.82
Assessing students' needs	14	3.6	14.63	3.58	14.26	3.17	14.49	3.41
Climate building	16	3.0	13.11	2.82	12.57	2.54	12.90	2.71
Students' participation in the learning process	13	3.5	12.08	2.97	13.96	4.07	12.79	3.52
Flexibility for students' personal development	13	3.9	8.82	4.75	9.96	3.75	9.25	4.40
Total	146	20	119.37	14.20	120.22	15.21	119.69	14.47

Although the overall mean for this study was below the established mean (M = 146), a further more fine-grained analysis indicates that there are slight variations among the seven factors. Scores above the established mean represent support of the concept implied in the factor title, whereas scores below the established mean values indicate support of the opposite concept. Table 2 indicates that the mean scores for two of the seven factors – namely, relating teaching to students’ experience and assessing students’ needs – are higher than the established mean values for the factors indicating student-centred teaching styles of the educators. These results show that educators in Eritrea plan activities that take students’ prior experiences into account and attempt to relate teaching to student needs. The scores of the next three factors – namely personalising instruction, climate building, and flexibility

for the students' personal development – were lower than the established mean values. These results indicate that the educators do not create an environment that encourages dialogue among the students or between the students and their teachers. The low scores indicate that teachers are providers of knowledge rather than facilitators of learning. Finally, the score of the remaining factor, students' participation in the learning process, was approximately equal to the established mean values, suggesting the use of both student-centred and teacher-centred approaches as observed by Conti (1985; 1990).

Analysis of variance (ANOVA) was used to answer the second research question, 'To what extent do demographic features affect the teaching style of teacher educators?' The significance of the data was examined at 0.05 level of confidence. According to Cohen, Manion and Morrison (2011), ANOVA helps to determine if the mean of a randomly selected population is significantly different. The dependent variables in this study are the seven factors that determine the teaching style of the educators, namely student-centred activities, personalising instruction, relating to students' experience, assessing students' needs, climate building, students' participation in the learning process, and flexibility to allow for students' personal development. The independent variables are the seven demographic features, namely gender, age, qualification, workload, teaching experience and experience in the current institute.

The p-values were found to be greater than 0.05 indicating that there is no significant relationship between the demographic features and teaching style of teacher educators in Eritrea (see Table 3). No significant difference is observed between the teaching styles and the institutions to which the educators belong, indicating that teaching style in both institutions is teacher-centred ($p = 0.82$). No significant difference is observed between the teaching styles of male and female educators ($p = 0.28$). This finding contradicts the finding of Barrett (2004), who found significant differences in the teaching styles of female and male teachers in higher education institutions. She reported that female instructors used more student-centred teaching styles than their male counterparts did (Barrett 2004). Regarding the relationship between the educators' age and their teaching style, this study found no significant association. Qualification is another feature that was examined. No relationship was found between educators' qualifications and their teaching styles. No significant difference was observed between the teacher educators' workload and their teaching styles.

Table 3: ANOVA of teaching style and demographic features

Factors affecting teaching style	Demographic features						
	Institution	Gender	Age	Qualification	Workload	Total teaching experience	Experience in current institution
Student-centred activities	0.97	0.63	0.68	0.04	0.44	0.66	0.74
Personalising instruction	0.64	0.13	0.17	0.59	0.35	0.80	0.74
Relating to students' experience	0.08	0.69	0.79	0.07	0.17	0.20	0.59
Assessing students' needs	0.68	0.95	0.08	0.85	0.77	0.08	0.70
Climate building	0.45	0.63	0.21	0.51	0.73	0.16	0.56
Students' participation in the learning process	0.04	0.49	0.94	0.52	0.52	0.72	0.41
Flexibility for students' personal development	0.33	0.09	0.82	0.44	0.66	0.76	0.13
Overall	0.82	0.28	0.32	0.15	0.75	0.18	0.81

In agreement with Ahmed (2013), the mean score of all educators was found to be below the established mean value, indicating that teaching experience did not play a role in the teaching style of educators. However, educators seventy-years of age and older tend to use more teacher-centred teaching styles. Although educators with more than thirty-five years of teaching experience show more teacher-centeredness, no significant difference is found between teaching style and teaching experience of educators in Eritrea. Regarding the relationship between teaching style and the number of years teaching at the institutions, no significant difference was observed. The mean score of all educators was found to be below the established mean values indicating the presence of a teacher-centred teaching style. This contradicts the finding of Ahmed (2013), who reports a strong relationship. Table 3 presents the relationship between the teaching style and demographic features of educators.

Discussion and Conclusions

The purpose of this study was to ascertain the teaching style of teacher educators in Eritrea as well as to determine the relationship that exists between the demographic features of the educators and their teaching styles. The finding indicates that teacher educators in Eritrea predominantly adopt a teacher-centred teaching style. This finding shows a discrepancy between what the policy advocates and how the teachers who are expected to implement the educational reforms are prepared at the teacher education institutions. Policy advocates view a student-centred teaching style as desirable, because it is presumed to strengthen the teaching-learning relationship and affirm the active participation of student teachers in their own learning and development (MoE 2003). A student-centred teaching style provides opportunities for student teachers to become problem solvers as well as self-directed and lifelong learners. Moreover, no significant relationship was found between the teaching style and the demographic features of the educators. There could be several reasons for the overriding prevalence of teacher-centred approaches, as outlined below.

Firstly, the teaching style of teacher educators is influenced by the teaching culture that they were exposed to when they were students. Several studies indicate that teachers tend to use the methods their teachers used when they were students (Lieberman 1995; Stigler and Hiebert 1999; Darling-Hammond 2006; Loucks-Horsley et al. 2010). As teacher-centred approaches are dominant, students depend heavily on teachers and consider the teachers' notes and handouts as the definitive source of knowledge. They accept the authority of the teacher or material studied without question as they have been taught to believe the teachers are always 'right'. Therefore, they are reluctant to participate in discussions and give their own opinions. They prefer to passively absorb and memorise the knowledge imparted. Such rote learning limits students' ability to understand and analyse information, which in turn contributes to the perpetuation of the status quo instead of shifting to more open-ended, exploratory student-centred teaching.

Large class sizes are the second reason that contributes to the prevalence of a traditional teacher-centred teaching style. A classroom in higher education of Eritrea has between fifty and seventy students. Such a situation limits the possibility for active and hands-on learning. According to Johnson, Johnson, Holubec et al. (1984), six learners is the upper limit for effective cooperative learning groups. In such crowded classrooms, there would be between seven and eleven groups working simultaneously. Since teacher educators would not have enough time to monitor each group, they opt for lower-level teacher-centred strategies. Moreover, in EIT, for example, the desks are chained to one another, making it difficult to arrange for group work.

Thirdly, many of the teacher educators are subject teachers who are responsible for teaching content and may thus lack the appropriate pedagogical knowledge regarding student-centred teaching. These teacher educators need help to apply student-centred approaches (Tabulawa 2013). Although not conclusive, studies indicate that pedagogical training organised for teacher educators enhances the implementation of more student-centred approaches (Gibbs and Coffey 2004; Postareff, Lindblom-Ylänne and Nevgi 2007). As teachers' conceptions tend to remain relatively stable (Kembel 1997), they should be continuously reminded through training about the need for change.

Fourthly, school resources, including textbooks and handouts, are in short supply at all higher education institutions in Eritrea. By catering to students' individual needs, school resources support learning and significantly increase student performance (Bitner and Bitner 2002). When there is a scarcity of school resources, student teachers are obliged to rely on lecture notes as their main source of information. Students who struggle to summarise or identify the main points will not benefit from student-centred teaching when lecturing is the mode of instruction. During lectures, teacher educators provide no opportunities for student teachers to ask questions, initiate topics for discussion, or challenge one another's thinking. Moreover, since tests usually measure recall of information, student teachers find it unnecessary to look for alternative knowledge beyond the lecture notes. As providers of knowledge, educators are treated with the highest respect. Such respect makes it difficult for teacher educators in Eritrea to accept a pedagogical practice that tends to put them on a par with their students.

Finally, the prevalence of a teacher-centred teaching style may be attributed to lack of awareness about the ongoing paradigm shift as most of the teacher educators in Eritrea are foreigners. Unless appropriate orientations and continuous professional development opportunities are given, the educators will continue to propagate teacher-centred teaching contrary to the reform initiatives. The teacher education institutions should provide the necessary support to these educators to change their classroom practice.

This study has shown that PALS is an appropriate instrument for identifying the teaching style of teachers as either teacher-centred or student-centred. However, the questionnaire limited the responses of the educators to specified questions on the questionnaire. Therefore, we recommend that a further study with a qualitative orientation be undertaken to provide additional insight into the teaching styles of teacher educators in Eritrea.

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References

- Ahmed, K. A., 2013, 'Teacher-centered versus learner-centered teaching style', *Journal of Global Business Management* 9 (1): 22–34.
- Bada, S. O., 2015, 'Constructivism learning theory: a paradigm for teaching and learning', *Journal of Research and Method in Education* 5 (6): 66–70.
- Barrett, K. R., 2004, 'A comparison of online teaching styles in Florida community colleges', unpublished doctoral dissertation, Florida State University.
- Barrett, K. R., Bower, B. L. and Donovan, N. C., 2007, 'Teaching styles of community college instructors', *American Journal of Distance Education* 21(1): 37–49.
- Bitner, N. and Bitner, J., 2002, 'Integrating technology into the classroom: eight keys to success', *Journal of Technology and Teacher Education* 10 (1): 95–100.
- Carl, A. E., 2008, 'Reconceptualising teacher training at a South African university: a case study', *South African Journal of Higher Education* 22 (1): 17–40.
- Cohen, L., Manion, L. and Morrison, K., 2011, *Research Methods in Education*. 7th edition, London: Routledge.
- Conti, G. J., 1985, 'Assessing teaching style in adult education: how and why', *Lifelong Learning* 8 (8): 7–11, 28.
- Conti, G. J., 1990, 'Identifying your Teaching Style', in M. W. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, Malabar, FL: Krieger Publishing Company.
- Darling-Hammond, L., 2006, *Powerful Teacher Education: Lessons from Exemplary Program*, San Francisco, CA: Jossey-Bass.
- Darling-Hammond, L. and Young, P., 2002. 'Defining "highly qualified teachers": what does "scientifically-based research" actually tell us?', *Educational Researcher* 31(9): 13–25.
- Dupin-Bryant, P. A., 2004, 'Teaching styles of interactive television instructors: a descriptive study', *American Journal of Distance Education* 18 (1): 39–50.
- Elliott, D. L., 1996, 'The teaching styles of adult educators at the Buckeye Leadership Workshop as measured by the Principles of Adult Learning Scale', unpublished doctoral dissertation, Ohio State University.
- Fullan, M., 2001, *The New Meaning of Educational Change*. 3rd edition, New York: Routledge.
- Gibbs, G. and Coffey, M., 2004, 'The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students', *Active Learning in Higher Education* 5 (1): 87–100.
- Grasha, A. F., 2002, *Teaching with Style: A Practical Guide to Enhancing Learning by Understanding Teaching and Learning Styles*, Pittsburgh, PA: Alliance Publishers.

- Hunt, B. C., 2009, 'Teacher effectiveness: a review of the international literature and its relevance for improving education in Latin America', Working papers series No. 43, Washington DC: Partnership for Educational Revitalization in the Americas.
- Johnson, D. W., Johnson, R. T., Holubec, E. J. and Roy, P., 1984, *The New Circles of Learning: Cooperation in the Classroom and School*, Alexandria, VA: ASCD.
- Kembel, D., 1997, 'A reconceptualisation of the research into university academics' conceptions of teaching', *Learning and Instruction* 7 (3): 255–75.
- Kitot, A. K. A., Ahmad, A. R. and Seman, A. A., 2010, 'The effectiveness of inquiry teaching in enhancing students' critical thinking', *Procedia – Social and Behavioral Sciences* 7: 264–73.
- Kuchinskias, G., 1979, 'Whose cognitive style makes the difference', *Educational Leadership* 36 (4): 269–72.
- Lea, S. J., Stephenson, D. and Troy, J., 2003, 'Higher education students' attitudes to student-centred learning: beyond "educational bulimia"?', *Studies in Higher Education* 28 (3): 321–34.
- Lieberman, A., 1995, 'Practices that support teacher development: transforming conceptions of professional learning', *Phi Delta Kappan* 76 (8): 591–6.
- Lindblom-Ylänne, S., Trigwell, K., Nevgi, A. and Ashwin, P., 2006, 'How approaches to teaching are affected by discipline and teaching context', *Studies in Higher Education* 31 (3): 285–98.
- Little, J. W., 1993, 'Teachers' professional development in a climate of educational reform', *Educational Evaluation and Policy Analysis* 15 (2): 129–51.
- Liu, R., Qiao, X. and Liu, Y., 2006, 'A paradigm shift of learner-centered teaching style: reality or illusion?', *Journal of Second Language Acquisition and Teaching* 13: 77–91.
- Lortie, D., 1975, *School Teacher: A Sociological Study*, Chicago, IL: University of Chicago Press.
- Loucks-Horsley, S. et al., 2010, *Designing Professional Development for Teachers of Science and Mathematics*. 3rd edition, Thousand Oaks, CA: Corwin.
- Lunenberg, M., Korthagen, F. and Swennen, A., 2007, 'The teacher educator as a role model', *Teaching and Teacher Education* 23 (5): 586–601.
- McCoy, R. M., 2006, 'Teaching style and the application of adult learning principles by police instructors', *Policing: An International Journal of Police Strategies and Management* 29 (1): 77–91.
- MoE, 2003, Eritrea: National Education Policy (First Draft), Asmara: Ministry of Education.
- MoE, 2008, The National Curriculum Framework, Asmara: Ministry of Education.
- Mosston, M., 1981, *Teaching Physical Education*, Columbus, OH: Bell & Howell Company.
- O'Neill, G. and McMahon, T., 2005, 'Student-centered Learning: What Does it Mean for Students and Lecturers?', in G. O'Neill, S. Moore and B. McMullin, eds, *Emerging Issues in the Practice of University Learning and Teaching*, Dublin: All Ireland Society for Higher Education.

- Peters, M. I., 2013, 'Examining the relationships among classroom climate, self-efficacy, and achievement in undergraduate mathematics: a multi-level analysis', *International Journal of Science and Mathematics Education* 11 (2): 459–80.
- Postareff, L., Lindblom-Ylänne, S. and Nevgi, A., 2007, 'The effect of pedagogical training on teaching in higher education', *Teaching and Teacher Education* 23 (5): 557–71.
- Schaefer, K. M. and Zygmunt, D., 2003, 'Analyzing the teaching style of nursing faculty: does it promote a student-centered or teacher-centered learning environment?', *Nursing Education Perspectives* 24 (5): 238–45.
- Seidel, T. and Shavelson, R., 2007, 'Teaching effectiveness research in the past decade: the role of theory and research design in disentangling meta-analysis results', *Review of Educational Research* 77 (4): 454–99.
- Stigler, J. M. and Hiebert, J., 1999, *The Teaching Gap: Best Ideas from the World's Teachers for Improving Education in the Classroom*, New York: Free Press.
- Stitt-Gohdes, W. L., 2001, 'Business education students' preferred learning styles and their teachers' preferred instructional styles: do they match?', *Delta Pi Epsilon Journal* 43 (3): 137–51.
- Tabulawa, R., 2013, *Teaching and Learning in Context: Why Pedagogical Reforms Fail in Sub-Saharan Africa*, Dakar: CODESRIA.
- Trigwell, K., Prosser, M. and Waterhouse, F., 1999, 'Relations between teachers' approaches to teaching and students' approaches to learning', *Higher Education* 37 (1): 57–70.
- Weimer, M., 2002, *Learner-centered Teaching: Five Key Changes to Practice*, San Francisco, CA: Jossey-Bass.
- Yoshida, F., Conti, G. J., Yamauchi, T. and Iwasaki, T., 2014, 'Development of an instrument to measure teaching style in Japan: the teaching style assessment scale', *Journal of Adult Education* 45 (1): 11–18.
- Zinn, L. M., 1990, 'Identifying your Philosophical Orientation', in W. M. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, Malabar: Krieger Publishing Company.

