

ARTISTRY IN EDUCATION AND AESTHETIC EDUCATION: A REPORT OF ARTS-BASED STAFF TRAINING AND LEARNING

J.P.H. PRETORIUS AND M.J. VON MALTITZ

ABSTRACT

The central theme of this article is to investigate the potential advantages to school management and teacher training in South Africa of an aesthetic approach or arts-based staff development. It is argued that the field of education with its specific body of professional and scientific knowledge seems unable to offer satisfying solutions to pressing problems in post-apartheid South African schools. It is suggested that the arts should be explored for answers and solutions. The opinions and attitudes of school management teams from some of the poorest schools in the Free State Province of South Africa were analysed in order to gauge whether any positive change had occurred in their professional knowledge, confidence and self-awareness after the said teams had been exposed to arts-based staff training and learning workshops. The positive change that was detected may be ascribable to the application of an aesthetic approach being followed during in-service workshops.

Statistical analysis of the pre- and post-unit responses of 117 attendants of management training workshops indicated that there had indeed been some statistically significant improvements in their professional knowledge, in their confidence as managers and in their perception of themselves as educational artists. Most appear to have been quite prepared to see themselves as educational artists. The positive changes could provide some encouragement and a kind of quantitative basis for the advocates of aesthetic education.

Keywords: Aesthetic education, aesthetic learning, curriculum management, teacher training and learning

1. INTRODUCTION

The South African education system has had and still has its fair share of problems. Not only is our schooling system still struggling to recover from the fragmenting effect of apartheid practices and the concomitant implications for the quality of teaching and learning but the new government itself seems to be unable to set schools in motion with a view to providing learners with authentic perspectives on the realities of their existence in a post-apartheid South Africa. Three examples should suffice to support these potentially controversial statements. On 13 March 2009 the previous Minister of Education, Ms Naledi Pandor, made the following statements at an education conference in the Eastern Cape, one of South Africa's nine provinces:

In a context in which there is ineffective system response on core obligations, it is very important to isolate those attributes that are necessary for system efficiency and responsiveness and to isolate and attend to the failings that lead to underperformance or inadequacy. [...] We need to ensure quality teaching and learning by getting teaching and learning right. [...] The simple point is made that well-qualified teachers, arriving on time, of sober mind and body, well prepared for lessons and teaching for the duration of the school day make schools work. [...] Does this happen here in the Eastern Cape? No it does not (RSA2009a).

The second example is taken from a report by a ministerial committee appointed by the same minister of education to investigate a proposed National Education Evaluation and Development Unit (NEEDU) with the aim of improving the quality of education in the country. The committee was chaired by Professor Jonathan Jansen, a well-respected educational leader and currently the Rector of the University of the Free State in Bloemfontein, South Africa. In its report, dated 17 April 2009, the committee reported that:

Throughout the country, in each of the provinces, from government officials, unionists, and teachers alike, the Committee heard the strongest expressions of concern, often in very passionate terms, that there was an indisputable crisis in education, and that it needed to be resolved as a matter of urgency. The unanimity of the response lent courage to this report; indeed, it would be a serious mistake to underestimate the depth and intensity of concern among all education stakeholders (RSA2009b).

State President Jacob Zuma likewise expressed concern in this regard in a speech on 7 August 2009 addressed to school principals: "As said earlier, a major problem in our schools is that teachers are frequently absent, arrive late, or spend their days doing things other than teaching" (RSA2009c).

It is important to note that this situation has developed in spite of or maybe precisely because of rather well-functioning quality-control systems and mechanisms: the South African Qualification Authority (SAQA) plays a strong quality assuring role; teachers' progress in their salary scales is linked to a performance-assessment system called the Integrated Quality Management System (IQMS); all schools are supposed to have well-functioning management teams; and departments of education in the nine provinces have learning facilitators to support and develop the teaching of school subjects, to name but a few.

Painfully aware of these and other problems, educators are frustrated by the system's evident inability to solve pressing problems. But where could one look for solutions to all these problems if not in the field of education itself, with its mass of professional and scientific knowledge? Perhaps solutions lie in an

area proposed by Eisner (1983) and other educationalists and philosophers¹. It is an area that is largely ignored by rationalist thinkers and decision makers: the arts. According to Feldman and McPhee (2008:321-2), “[like] music, the arts contribute to our conscious and unconscious being. They offer models of language and visual input that cannot be represented in word alone. The arts and music engage learners naturally”.

2. THE ARTS AS A SOURCE OF SOLUTIONS TO PROBLEMS IN EDUCATION AND AS A PLATFORM FOR LEARNING

Educators are sometimes initiated into the profession by being given neatly packaged course guides (approved by the quality-assuring authorities) or textbooks, and by then further being told to continue the work offered by their predecessors. While this route may, even often, provide satisfactory results, the depth of learning can be lacking, while the entire nature of a proper educational experience can be lost to a routine of lack-lustre presentations. The curiosity that is inherent in the desire to learn is lost in boredom, and as a result, even the educators themselves lose the willpower to solve the pressing challenges that they face in modern classrooms.

Eisner's aesthetically pleasing, well-presented article in the January 1983 issue of *Educational Leadership* offers a solution to the missing link between educational theory and practice. He compares a teacher to a director of an orchestra, orchestrating dialogue from one part of a classroom to another (Eisner, 1983:10). This imagery, combined with his clear arguments to expose the inability of science to offer comprehensive solutions to the problems facing educators in their classrooms, enables educators to discover a dimension of teacher training that is often lacking; the aesthetic dimension. Pike (2004:34) considers the teacher to be a poet because he or she has a vision and brings about new ways of seeing. Eisner (1983:9) argues that the pedagogical artist can identify dynamic patterns in the teaching situation, can grasp their meaning, and react to them - abilities needed to solve many potentially difficult problems in the classroom. This is the very same dimension that educators need to enter so as truly to survive as professionals.

One could even go so far as to say that, with a conscience open to the arts, an educator may be more readily able to negotiate the challenges presented by teenagers in a South African classroom: for example, just by studying successful artists' ability to get and keep the attention of audiences, teachers could develop their own strategies to keep teenagers engaged in their classrooms. On a professional level, educators might be converted to a world in which they might actually already blindly have been living for many years: the world of educational artistry.

Hausman (1967:13) thus articulates the concept: “On the face of it, the identification of the teacher as an artist and the artist as a teacher seems obvious and self-evident. We have long accepted the idea that teaching is an

art as well as a science; there are many of the elements of artistic behaviour involved in teaching: conceiving, structuring, organizing, presenting, responding, evaluating in short, the good teacher must engage in significantly creative and qualitatively oriented behaviour as part of his [her] function in the classroom."

Schön (1987:16) further fleshes out the concept/idea in saying "[t]he artistry of painters, sculptors, musicians, dancers, and designers bears a strong resemblance to the artistry of extraordinary lawyers, physicians, managers and teachers. It is no accident that professionals often refer to an 'art' of teaching or management and use the term artist to refer to practitioners unusually adept at handling situations of uncertainty, uniqueness, and conflict".

Pretorius (2008:75) describes the assignment of the pedagogical artist as follows: "The pedagogical artist will analyze, revise and integrate reality facts, emotions, knowledge, events and experiences on both conscious and subconscious level to create a 'pedagogical plasma' within which such reality can be better understood, considered and integrated by himself and his learners."

If we accept the assumption that a teacher can be an artist, the next logical step would be to accept that educational experiences can be designed and presented in such a way as to exhibit the same critical characteristics of works of art, or that they might indeed themselves be works of art. Educational experiences then become aesthetic experiences. Pretorius (2008:76; 2009a:137-138; 2009b:160) has identified one of the common characteristics of aesthetic and educational experiences that is relevant to the context of this study, namely that there will be attention to a part of a phenomenological objective field. This implies that cognitive connections are possible both when someone devotes focused attention to a work of art or to a well-designed and -presented educational experience. In such cases, learning might indeed be the result.

The next issue that begs consideration is *how*, precisely, people are to learn from works of art and specifically about education as a profession. If a work of art in the context of this study, a movie is to be used in an attempt to facilitate learning about education, this is a very important issue that needs to be addressed.

The focus of this article is to show that possible solutions do exist for many of the problems that educators face and these solutions are not necessarily to be found in the world of education and positivist educational research, but rather in the world of the arts. Yet this can only happen if educators are prepared to make what Beardsley (1970:6) elegantly calls *field-to-field cognitive illuminations*, and what Parsons (2002:30) calls meanings and connections or what Fenner (2003:45) calls associations between the worlds of education and

the arts. This means that learners will be able to study a work of art and identify connections, solutions or meanings included by the artists that might have relevance in the field of education. Parsons (2002:31) calls this "knowing in art". In the context of this study one might more specifically describe this as "knowing about curriculum management in art".

Teaching is as much an art as it is a science (Feldman & McPhee 2008:126-128; Pretorius 2008:72-78) and it is possible to conclude that a study of artistry in music and drama might yield some valuable insights regarding the world of education. Eisner (2002:155) maintains that "teaching is an art in that teachers, like painters, composers, actresses, and dancers, make judgements based largely on qualities that unfold during the course of action" (Pike 2004:23). The words of Vygotsky (1971) also offer encouragement: "... from the most ancient times art has always been regarded as a means of education, that is, as a long range program for changing our behaviour and organism" (Pike 2004:34). But how might this process unfold? Lachapelle, Murray and Neim (2003:83-91) present a model of "aesthetic learning" that might explain the mechanism by which educationalists and other people might learn from the arts. They have developed their model from a study of museum visitors' learning experiences when studying works of art. They support a learning model with two parts (Lachapelle, Murray & Neim: 2003:84):

The first part of the model circumscribes the experiential learning that occurs when the adult learner encounters the art object. Experiential learning is central to the conceptualization of learning proposed in this model. Works of art must be experienced. Learners must not only look at the work of art, but they must also take the time required to really see it and respond to it. [...] The second part of the model defines the meta-level theoretical learning that takes place if the learner confronts the knowledge that results from his or her experiential encounter with external sources of knowledge: it is, as Artaud defined it, a logical, coherent and well articulated body of knowledge.

These authors argue that experiential learning is the result of the interaction of two types of knowledge: mediating knowledge and objectified knowledge (Lachapelle, Murray & Neim 2003:84), and thus describe mediating knowledge:

In an encounter with a work of art, we bring all our personal and professional past. Memories may be awakened by salient features of the work, and these will probably alter the experience. In addition to our assumptions and past experiences, we also apply our skills in looking at and understanding works of art, [...] Mediating knowledge, then, is the personalized body of knowledge that the viewer brings with him or her to the aesthetic encounter. [...] As the name applies, mediating knowledge is an intermediary that 'stands' between us and the art object.

Objectified knowledge is also described by Lachapelle, Murray and Neim (2003:86):

Contrary to the subject-centered nature of mediating knowledge, objectified knowledge is located in the object: it is the knowledge that the work of art makes concrete and perceptible. In other words, the work of art is objectified knowledge. We have chosen this term to describe the art object, because it describes the manner by which the artwork stores and conveys knowledge. [...] More specifically, objectified knowledge consists of the ideas and feelings that are communicated by the artist through the process of creation and dissemination of his or her work of art. Each aspect of the work of art conveys meaning, and therefore each is a source of objectified knowledge.

The result of this process is that participants might compose a kind of knowledge that is described by Lachapelle, Murray and Neim (2003:86) as constructed knowledge:

When a viewer encounters a work of art, an aesthetic experience begins to unfold in much the same manner as a dialogue between two individuals except that, in this case, the exchange occurs between the viewer and the aesthetic object. ("In other words, they can be taught and learned in a way that looks very much like the way history, for example, is taught and learned" Parsons, 2002:30). Through aesthetic dialogue, the interaction of two bodies of knowledge - mediating knowledge and objectified knowledge produce a new kind of knowledge. [...] Constructed knowledge is a highly individualized form of knowledge; it consists of the personal meaning that the viewer has assigned to the work of art based only on his or her experiential encounter with it. [...] Constructed knowledge is a result of a creative process based on imagination.

But would educators be willing and able to participate fully in this seemingly complicated journey through the world of the arts in the school holidays, when they are expected to attend a compulsory workshop? The words of Parsons (2002:30) are sobering: "The meaning of the (art) work is seen as constructed by the interaction of the viewer with the work. Meaning therefore depends on the particular viewer and/or the culture of the viewer. Hence it is not the same for every viewer." Lachapelle, Murray and Neim (2003:95) support these statements: "... the learning pathways used by the informants are essentially idiosyncratic." They also warn against the effect that different artworks might have on people's reactions to them: "We suspect that these patterns are also related to the specificities of different works of art. If that is the case, it is likely that each individual informant's patterns of experiential and theoretical learning would vary according to the content and challenges presented by different works of art."

Given the fact that an American movie from 1973 about a professor in law at Harvard University and a song by Mango Groove, a highly successful local band were chosen as platforms for aesthetic learning by school managers of schools in South Africa, as described later, one might grasp the rather hesitant feelings of the presenter on that occasion when the first workshop started.

Would the managers assembled there indeed be prepared to see themselves as educational artists?

3. QIDS-UP: TRAINING FOR THE MANAGEMENT TEAMS OF THE POOREST-OF-THE-POOR SCHOOLS

The Quality Improvement, Development, Support and Upliftment Programme (QIDS-UP) of the National Department of Education addresses one key area of neglect in our education system, that is, inadequate resource allocation to schools in poor and disadvantaged communities (RSA, 2010). In order to ensure that the poorly resourced schools are at least given a base from which to provide quality education, QIDS-UP is providing resources and support to 15 000 schools, among which there are no-fee schools.

As part of this programme, the school management teams (SMTs) of some of the poorest schools in the Free State Province, which are situated in the central part of South Africa, attended a five-day workshop during July 2008. This training workshop was offered by the Centre for Education Development (CED) of the University of the Free State in Bloemfontein, the province's capital. The CED specialises in short teacher-training courses and workshops, teacher-in-service training and teacher and learner development.

4. METHODOLOGY

The management training offered during July 2008 comprised six units. The focus of this paper is an analysis of the presentation of Unit 2: Curriculum Management, which was facilitated by one of the authors. With the plan in mind to present the unit from the perspective of aesthetic education and educational artistry, the outcomes for possible achievement during and upon completion of the unit were decided upon.

Participants had to be able to:

- Demonstrate the necessary understanding to enable them to manage a process for the planning of teaching and learning that would promote responsive, effective and creative approaches and further be in line with National policy.
- Explain why a curriculum should be managed properly.
- Understand and discuss the impact of educational culture, structure

and procedures on curriculum delivery at the classroom level.

- Understand how to manage a curriculum for teaching and learning based on sound pedagogical principles.
- Explain how to develop and manage strategies to ensure that all learners, irrespective of their background or special needs, would be supported to achieve their potential.
- Manage curricular and related classroom activities in ways that would involve and motivate learners and ensure that learners would have a rounded educational experience.
- Explain why an educator/manager could also be regarded as an artist.

The unit's duration was to be five hours, with no assessment other than a portfolio of evidence that had to be submitted three months after the completion of the workshops. This particular structure was appreciated by the authors, since tests and examinations are often regarded to have an inhibiting effect on self-directed, powerful learning. The core idea in the presentation of the unit was to deviate from traditional, often more scientific approaches to teacher training, and to offer the unit using artistic methods. This particular workshop would be started with the song "In the jungle" by Mango Groove - a seemingly fitting introduction to aesthetic education.

In the unit, three basic concepts of the curriculum, namely the curriculum as *plan* (a document or blueprint for teaching), as practice (with the emphasis on what actually happens in a classroom) and as *social construct* (something that is built or made by society) served as the backbone of all the activities, discussions, case studies and assignments following the Mango Groove song.

Seven scenes from *The paper chase*, 1973, a movie based on the novel by John Jay Osborn, Jr, with Timothy Bottoms, Lindsay Wagner and John Houseman (in an Oscar-winning performance) were projected and discussed: *Kingsfield's class*, *Questioning and answering*, *Hart's big move*, *A hypothetical*, *The empty classroom*, *The elevator* and *Pieces of paper*. The curriculum-management strategies of an experienced lecturer - Professor Kingsfield - were discussed and analysed by comparing them to the performance of Mango Groove. Some of the similarities between artists and educators or educational managers, and between the arts and education, (such as the importance of teamwork, having a plan of action, feelings of joy or satisfaction and thorough planning) were identified and their implications for education and curriculum management discussed.

4.1. Aims of the study

We considered it to be very important to establish what the educators'

expectations of and opinions regarding the workshop would be: positive opinions would encourage the educators presenting the unit to continue, and provide support for the use of art in teacher training. The main aims of the survey were formulated in terms of three questions:

- Would the participants appreciate and enjoy arts-based training in the field of curriculum management?
- Would their perceived ability to manage a curriculum be improved?
- Would participants concur with the view of a teacher as an artist?

4.2. Survey instrument and statistical methods

We used a short pre- and post-attendance questionnaire as survey instrument, which was completed immediately before and after the workshops. The survey included only two pieces of demographic information, i.e. age and post level, and ten Likert Scale items to measure the participants' attitudes, opinions and expectations of the unit, and of the concept of artistry in education. However, one must note that not only positive opinions about the unit - which are easily measured and summarised - matter, but also how opinions change after the completion of the unit. It is these changes that the more complicated comparative statistical procedures attempted to gauge and explain.

Thus, the questionnaires of 117 workshop participants from three workshops were initially analysed by calculating the percentages of their pre- and post-attendance responses in each Likert Scale category. A comparative statistical analysis was subsequently conducted to establish whether there were any significant differences between the respondents' pre- and post-attendance responses.

In the statistical analysis, one's primary concern is the impact of missing observations, or missing answers to several of the questions. Because one does not want to bias the results, the topic of multiple imputation arises. However, considering the non-multivariate nature of the analyses conducted in this study, it would seem unnecessary to go to this effort. Specifically, we are mostly interested in non-multivariate comparisons between pre-unit and post-unit questionnaire responses. With only 10 responses missing in the pre-unit questionnaires and 10 in the post-unit questionnaires (in a total of 18 respondents), this number is too small to warrant the added complexity and variance established between imputations within the multiple imputation framework.

That said, the details of the statistical analyses can be expanded upon. Initially, one would think that the separate distributions of answers in the pre- and post-unit responses should be presented in the form of histograms. From these

distributions, means, variances, skewness and kurtosis coefficients can be calculated the assumption being that if the distributions change significantly in shape from before the unit to after the unit, then the unit may be responsible for changes, in particular in respect of attitudes towards curriculum management. While these histograms are provided below, this is not a meaningful statistical practice in the face of paired data where there is a natural pairing between different variables in each observation, i.e. the pre-unit and post-unit responses for a certain individual in a particular question. With this naturally paired data we are mostly concerned with the way attitudes change within each survey respondent. The main hypothesis to be tested is that there is no positive (attitudinal) change from the pre-unit responses to the post-unit responses.

There are two ways to test this hypothesis: the first method assumes that either the pre- and post-unit responses are Normally distributed or that the post-minus the pre-unit responses are Normally distributed. With this assumption, we calculate the statistics:

$$\bar{d} = \frac{1}{n} \sum_{i=1}^n d_i$$

$$s_d^2 = \frac{1}{n-1} \sum_{i=1}^n (d_i - \bar{d})^2$$

$$t = \frac{\bar{d}}{s_d / \sqrt{n}}$$

In these formulae, the d_i represents the differences between the paired data points, i.e. the post-unit response minus the pre-unit response. The statistic is distributed as t_{n-1} if H_0 is true.

If these distributions fall outside Normality, however, bootstrapping is used to obtain confidence intervals of the mean change for each question. Ten thousand bootstrapped samples of responses are obtained from each question (pre- and post-unit), and the 95% one-sided confidence intervals are obtained. If these 95% confidence intervals do not contain zero, then one can reject the null hypothesis and state that there is, indeed, a positive attitudinal change in respondents after the unit has been presented.

After evaluation of the overall changes in the paired Likert-scale responses, we move to an in-depth analysis of how each response category relates to every other category in the pre- and post-unit surveys. The simplest form of this procedure is a two-way contingency table counting the pairs of pre- and post-unit scale responses. However, this analysis is extrapolated graphically through a biplot stemming from correspondence analysis on the contingency

table. In these graphs, categories of responses from the pre- and post-unit surveys can be seen as being associated, grouped to one another, if they are close together on the biplot.

5. ANALYSIS OF RESULTS

Age and post level could be factors influencing teachers' views of themselves. The distribution of the participants' age groups is represented in Figure 1. As might be expected from a group of school management team members, around 80% of the respondents were in the age groups 40-60 years. The post levels of the participants are represented in Figure 2 (HOD = Head of Department).

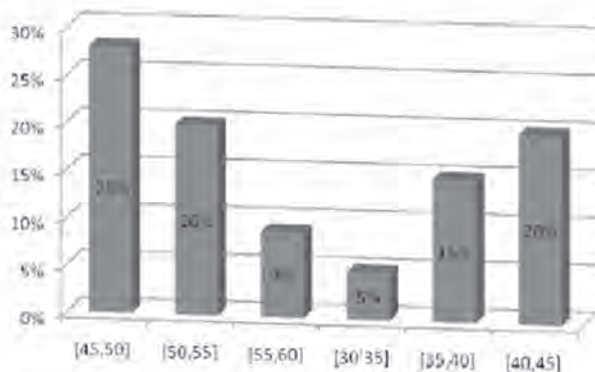


Figure 1 : Participants by age group (N=117)

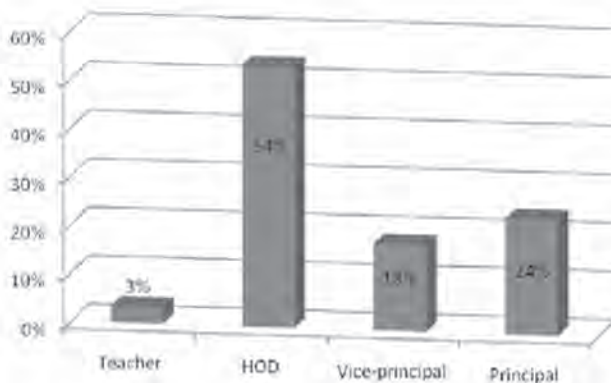


Figure 2: Post level of participants (N=117)

Before analysing results for each individual question, it is important to note that for every question, except Question 5 and Question 7, higher values on the Likert Scale indicate more negative attitudes, while lower values indicate

positive attitudes. Thus, for these questions, mean changes in responses that are negative are, in fact, desirable. Conversely, for Question 5 and Question 7 (the negative questions), higher values on the scale indicate more positive attitudes, while lower values indicate negative attitudes. Thus, for these two questions, a mean response change that is positive in value is desirable.

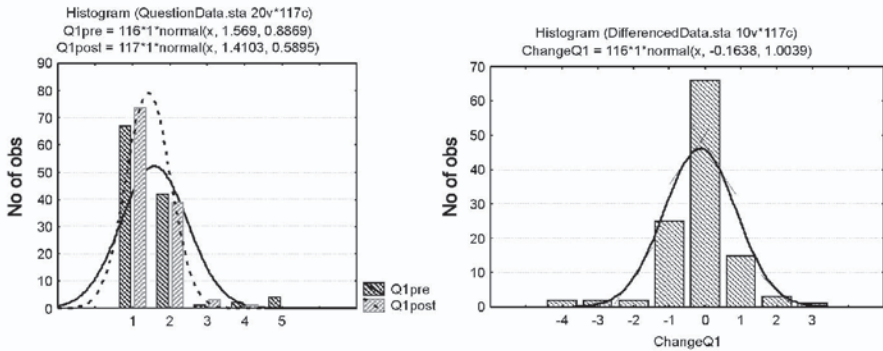


Figure 3: Question 1: Responses (“I think I will learn/have learned something new in this unit”)

From the above histograms (Figure 3), we initially notice that the unit participants generally looked forward to participating, and once the unit had been completed their initial positive reaction had not changed much. This is further demonstrated by the fact that initially there were a few respondents who did not look forward to the unit at all, a negative reaction which was not present after the unit. The response-change data are centred around a mean of -0.1638 . To test the hypothesis that there is no negative change (i.e. positive attitude change), a $-t$ -statistic of -1.7573 was calculated, with a p -value of 0.0408 . So, assuming the change-data to be Normal, we conclude that there is significant evidence that attitudes had become more positive towards 'new learning' after the unit. Since the data may not be truly Normally distributed, we continue with the analogous bootstrapping routine. Bootstrapping provides an upper bound of -0.0087 for a one-sided 95% confidence interval. Since this interval does not cover zero, one can again conclude there was a significant positive attitude change towards 'new learning' after the unit. It is also interesting that the variation in responses after the unit had been presented was less - there was almost more of a group consensus concerning the responses once the unit had been completed. Since the mean value of the responses is negative, indicating positive attitudes towards learning, this lower variation can, indeed, be interpreted in a positive light.

The cross-tabulation below (Table 1) indicates that the seven negative participants changed their views to *very positive* responses after the unit, while only four respondents were more negative by two or more categories after the unit.

Table 1: Cross-tabulation of pre- and post-unit responses for question 1

Q1pre	Q1post: 1	Q1post: 2	Q1post: 3	Q1post: 4	Q1post: 5	Row
1	48	15	3	1	0	67
2	24	18	0	0	0	42
3	0	1	0	0	0	1
4	0	2	0	0	0	2
5	2	2	0	0	0	4
All Grps	74	38	3	1	0	116

From Figure 4 below we can see that the row coordinates for the pre-unit '5' response (i.e. most negative attitudes) are closely related to the post-unit '1' and '2' responses, which again indicates positive attitude changes after the unit had been presented.

In summary, we find that there is support for a positive response to the first of our main research questions, indicating an appreciation of arts-based training

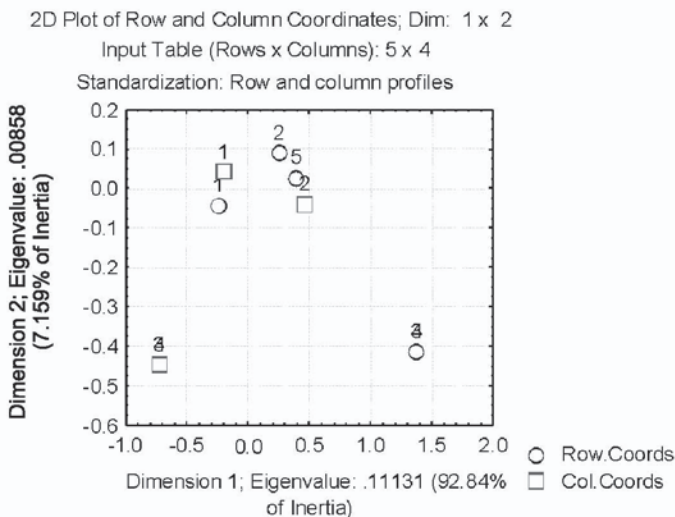


Figure 4: Correspondence analysis biplot of pre- and post-unit responses for question 1

Judging by the distributions of the pre- and post-unit responses, there seem to have been similar changes in attitudes regarding Question 2 as there had been for Question 1, which again indicates positive changes (see Figure 5 below).

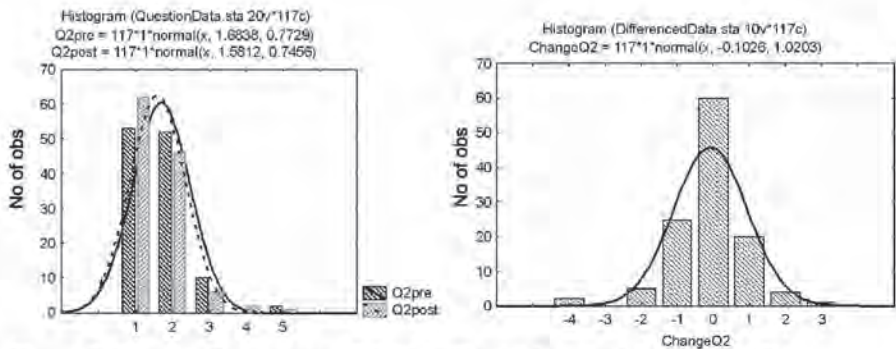


Figure 5: Question 2 responses ("I think I will enjoy/have enjoyed this unit")

The conclusions here are however a little less precise. The response-change data are centred around a mean of -0.1026. To test the hypothesis that there is no negative change (i.e. that there is no positive attitude change), a *t*-statistic of -1.0873 was calculated, with a *p*-value of 0.1396. So, assuming the change-data to be Normal, we concluded that there was not enough evidence that attitudes towards enjoyment had become significantly more positive after the unit. Since the data may not be truly Normally distributed, we, once more, continue with the analogous bootstrapping routine. Bootstrapping provides an upper bound of 0.0513 for a one-sided 95% confidence interval. Since this interval does indeed cover zero, we can fortify our conclusion that there had been no significant positive attitude change towards enjoyment after the unit.

Table 2: Cross-tabulation of pre- and post-unit responses for question 2

Q2pre	Q2post: 1	Q2post: 2	Q2post: 3	Q2post: 4	Q2post: 5	Row
1	34	16	2	1	0	53
2	21	26	4	1	0	52
3	5	4	0	0	1	10
4	0	0	0	0	0	0
5	2	0	0	0	0	2
All Grps	62	46	6	2	1	117

For Question 2, the cross-tabulations (Table 2) reflect indifference. It would seem as though the two very negative respondents became more positive about enjoyment after attending the unit, while five more respondents dropped the response level regarding enjoyment by two or more categories. It is nevertheless still evident that 32 respondents had a positive attitude change and that only 25 had negative attitude changes. Yet this difference was small, and evidently the reason that the mean tests were not significant. The same evaluation can be made for the biplot below (Figure 6). Most importantly, the pre-unit '1' and '2' responses are well related to the respective post-unit '1' and '2' responses. However, the post-unit '3' and '4' responses are also close to the pre-unit '1' and '2' responses, indicating that '1' and '2' pre-unit responses are

well associated with disappointing post-unit responses. In summary, while the attitudes towards enjoying the module are quite positive before and after presenting the module, they do not change from before to after. Because of the positive result, this is evidence for the enjoyment and appreciation of arts-based training in curriculum management.

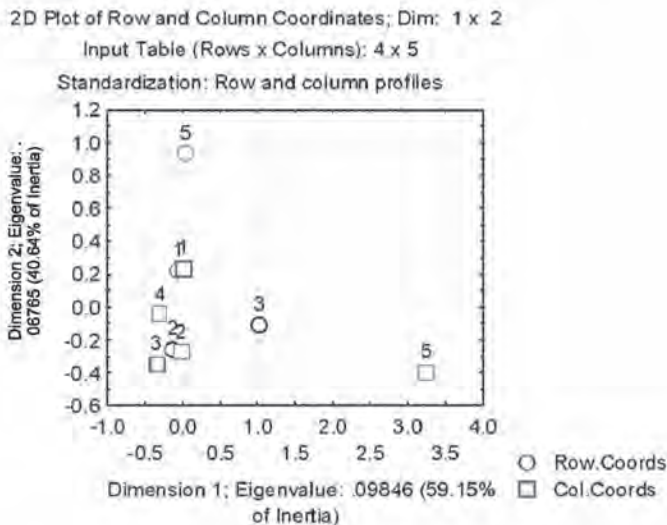


Figure 6: Correspondence analysis biplot of pre- and post-unit responses for question 2

For Question 3 (Figure 7), the distribution of pre- and post-unit responses seems to have remained relatively stable. To test the hypothesis that there is no negative change at all in the responses (i.e. no shift to more positive attitudes) a *t*-statistic of 0.8774 was calculated, with a *p*-value of 0.8089. The evidence thus fails to reject the hypothesis.

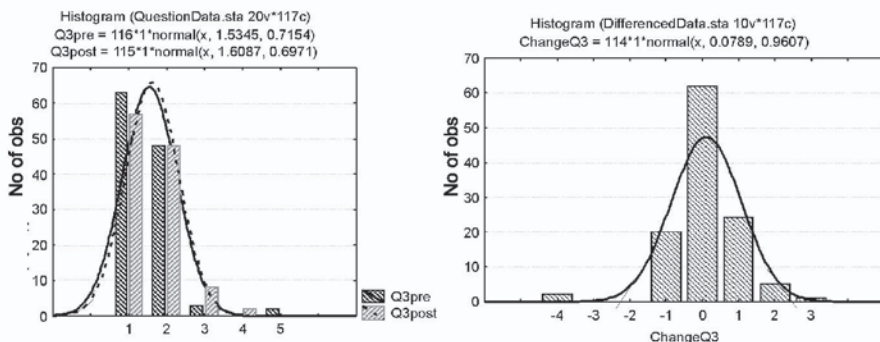


Figure 7: Question 3 responses (“I think this unit will enhance/has enhanced my understanding of curriculum management”)

If anything, this seems to point to a slightly more negative view of the participants’ understanding of curriculum management after the unit. Bootstrapping provides a 90% confidence interval of -0.0696 to 0.2261 on the mean response change of 0.0789. This interval, though reflecting that the overall negative attitude shift was insignificant, delves deeper into the positive region than the negative, thus emphasising the possible negative attitude shift.

Table 3: Cross-tabulation of pre- and post-unit responses for question 3

Q3pre	Q3post: 1	Q3post: 2	Q3post: 3	Q3post: 4	Q3post: 5	Row
1	36	21	4	1	0	62
2	18	25	3	1	0	47
3	0	2	1	0	0	3
4	0	0	0	0	0	0
5	2	0	0	0	0	2
All Grps	56	48	8	2	0	114

Table 3 indicates that the most negative individuals before the unit experienced positive post-unit attitude shifts; yet some of the optimistic attendees seem to have lost faith in their grasp of the topic after the unit: 30 unit participants’ perceptions dropped by at least one point (six of these dropped by more than two or three points), compared with only 22 participants whose attitudes towards understanding improved. This characteristic is emphasised by the correspondence analysis biplot below (Figure 8), which indicates that the post-unit response categories ‘3’ and ‘4’ are moving closer to the pre-unit positive responses ‘1’ and ‘2’. Once more, we should not be too concerned with the worsening attitudes over time, since the histograms before and after the unit was presented are still very positively skewed, indicating support for an increase in the perceived ability of the participants to manage curricula.

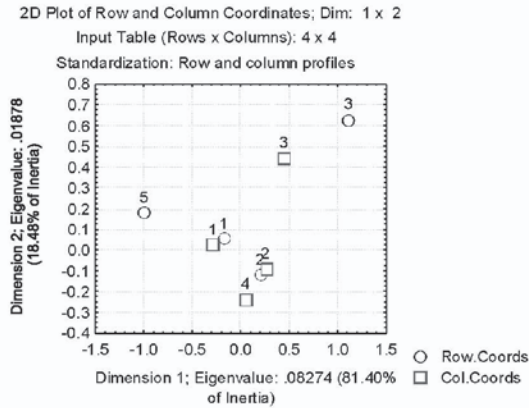


Figure 8: Correspondence analysis biplot of pre- and post-unit responses for question 3

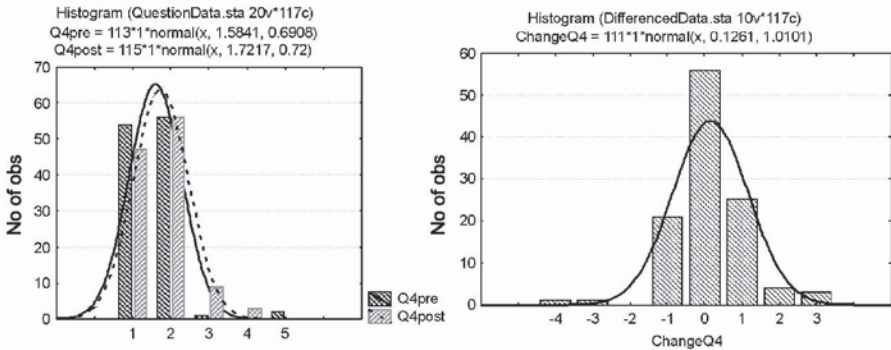


Figure 9: Question 4 responses (“This unit will help/has helped me to improve my classroom practices”)

As with Question 3, the Question 4 responses (Figure 9) seem to vary little from before the unit to after the unit. A *t*-test testing the hypothesis that there is no negative change in the responses (i.e. that there is no shift to more positive attitudes) produces a statistic of 1.3155, which is again insignificant (*p*-value of 0.9045). Moreover, this large *p*-value again indicates a possible shift to more negative attitudes, a fact that is again confirmed by a lopsided (yet insignificant) bootstrapped 90% confidence interval of -0.0280 to 0.2818 around a mean response change of 0.1261 that in turn indicates an overall shift towards more negative attitudes.

Table 4: Cross-tabulation of pre- and post-unit responses for question 4

Q4pre	Q4post: 1	Q4post: 2	Q4post: 3	Q4post: 4	Q4post: 5	Row
1	25	21	4	3	0	53
2	20	31	4	0	0	55
3	0	1	0	0	0	1
4	0	0	0	0	0	0
5	1	1	0	0	0	2
All Grps	46	54	8	3	0	111

Table 4 above and Figure 10 below again illustrate that, while the general response was still very positive, the mean shift was rather disappointing: 32 respondents' attitudes in respect of the unit as helping to improve their classroom practices were decidedly more negative after the unit (seven of these who now moved from category '1' to '3' or '4' had been highly optimistic individuals). Only 23 felt more positive after having attended the unit.

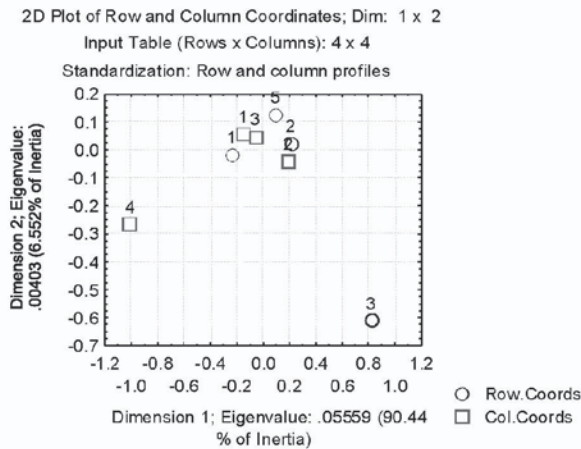


Figure 10: Correspondence analysis biplot of pre- and post-unit responses for question 4

Fortunately, the correspondence analysis biplot picks up the important fact that the two highly negative pre-unit responses in category '5' have moved to the two lowest categories (this is shown in the northern-most circle coordinates those for pre-unit response category '5' lying close to the more positive post-unit attitude categories). Again, we can conclude that there are generally positive attitudes towards this unit helping teachers be more effective in the classroom, although some doubt is being indicated after the unit has been presented. This is evidence for an increase in perceived ability to manage a curriculum, albeit weaker evidence than we would have hoped for.

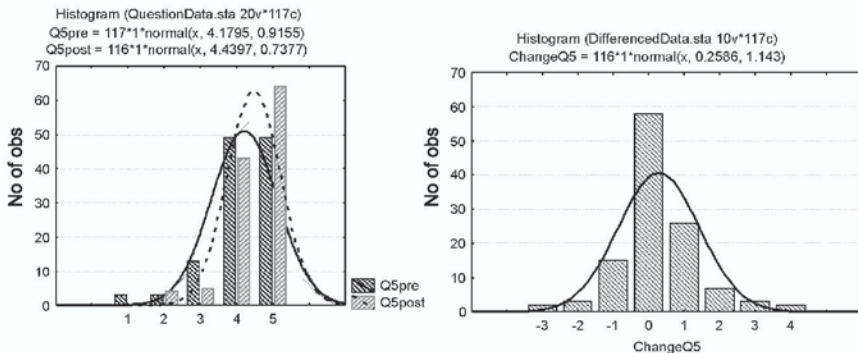


Figure 11: Question 5 responses (“I think this unit will be/has been boring”)

The distribution of response changes for Question 5 (Figure 11) is more spread out than for questions 3 and 4. For this question, higher scores are more desirable, an outcome evident in the mean response shifting from 4.1795 to 4.4397. The distribution of score changes is also slightly positively skewed, indicating more positive than negative attitude changes. The mean change is 0.2586, and testing the hypothesis that there is no positive change in responses/attitudes, a *t*-statistic of 2.4369 is calculated, with a *p*-value of 0.0082. The null hypothesis is rejected, and we can conclude that the unit participants found the unit less boring than they had expected. A bootstrapped 95% confidence interval has a lower bound of 0.0862, which, being greater than zero, indicates that the rejection of the null hypothesis stands after eliminating the distributional constraints of the *t*-test. Also, it should be mentioned that the variance of responses after the unit was less than before the unit, again indicating a type of group consensus concerning the responses after the unit. Since the mean response was positive, as in Question 1, we can once again take this positive consensus to be an affirmation of the merits of the unit.

Table 5: Cross-tabulation of pre- and post-unit responses for question 5

Q1pre	Q5post: 1	Q5post: 2	Q5post: 3	Q5post: 4	Q5post: 5	Row
1	0	0	0	1	2	3
2	0	0	0	1	2	3
3	0	1	0	6	6	13
4	0	1	3	24	20	48
5	0	2	2	11	34	49
All Grps	0	4	5	43	64	116

The cross-tabulation (Table 5) and correspondence analysis biplots (Figure 12) of the pre- and post-unit responses both indicate that the initial '1' and '2'

responses had all improved somewhat drastically after the unit (in the correspondence analysis, the '1' and '2' categories are extremely close together, and both are in close proximity to the most positive post-unit attitude category). Table 5 reflects that there were 32 positive attitude shifts with only 20 negative shifts. All these results support the rejection of the hypothesis that there was no positive attitude change.

In conclusion we can state, based on the generally highly positive attitude towards the unit, and the positive shift in attitudes after the unit was presented, that there is evidence for our first research question: evidence to show that the participants enjoyed and appreciated arts-based training in curriculum management.

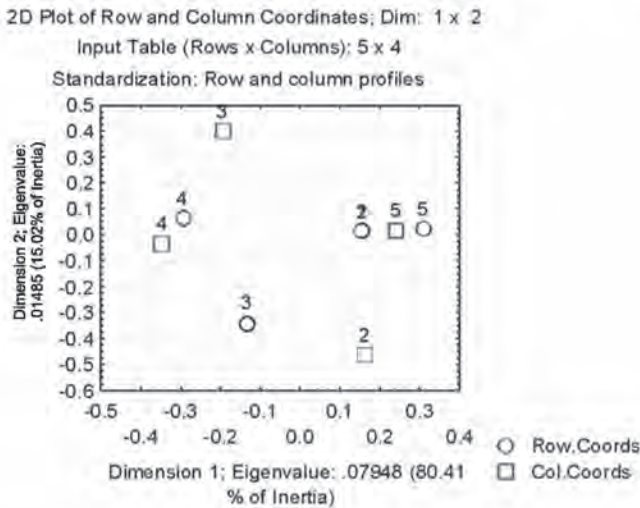


Figure 12: Correspondence analysis biplot of pre- and post-unit responses for question 5

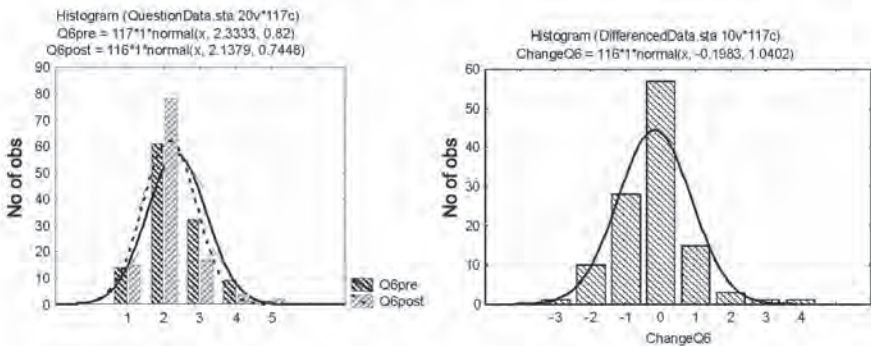


Figure 13: Question 6 responses (“I am an effective curriculum manager”)

In Question 6, optimism about being an effective curriculum manager was reflected in lower Likert-scale values to the questionnaire responses. The histograms presented above (Figure 13) clearly show the changes in scale values from pre- to post-unit responses to be slightly negatively skewed around a mean change of -0.1983; so, in general, respondents believed themselves to be better curriculum managers after attending the unit. In testing the hypothesis that there is no negative change in response values (i.e. that there was no shift in attitudes towards positivity), a significant *t*-statistic of -2.0529 was obtained, with a *p*-value of 0.0212. The upper limit of a lower 95% bootstrapped confidence interval of -0.0427 indicates that the result was still true after relaxing the distributional assumptions based around the *t*-test.

Table 6: Cross-tabulation of pre- and post-unit responses for question 6

Q1pre	Q6post: 1	Q6post: 2	Q6post: 3	Q6post: 4	Q6post: 5	Row
1	4	8	0	1	1	14
2	7	45	6	2	0	60
3	3	19	8	1	1	32
4	1	6	2	0	0	9
5	0	0	1	0	0	1
All Grps	15	78	17	4	2	116

Table 6 reveals that 15 respondents increased their responses by one category (i.e. one shift towards pessimism regarding their being effective curriculum managers), while five increased their responses by two or more categories. Conversely, 27 respondents showed a one-category increase in positivity, while 10 were two or more categories more positive in their attitudes.

The correspondence analysis biplot for Question 6 (Figure 14) indicates the same results as the table, but emphasis must be placed on two results: the pre-unit '4' responses nestled between the post-unit '2' and '3' responses (a positive result) and the positioning of the post-unit response category '4' in amongst the positive attitude pre-unit response categories, and directly next to the post-unit '1' category. The latter result means that one cannot tell the difference between the origins of the post-unit '1' responders and the post-unit '4' responders – an intriguing result (or possibly spurious because of the small sample size).

The results can be summarised as follows: while many participants thought themselves to be effective curriculum managers (based on the positive-attitude skewed histogram before the unit is presented), even more so thought themselves to be effective curriculum managers after the unit was presented. This indicates positive support for our second research question, an improvement in perceived ability to manage curricula.

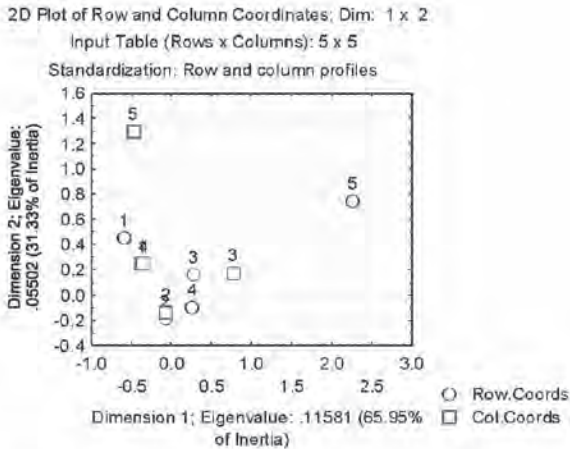


Figure 14: Correspondence analysis biplot of pre- and post-unit responses for question 6

For Question 7 (Figure 15), higher values on the scale indicate more positive attitudes, similar to Question 5. The above distributions of the Question 7 responses and the changes in responses from before the unit to after the unit do not seem to highlight any remarkable characteristics other than that little change seems to be evident.

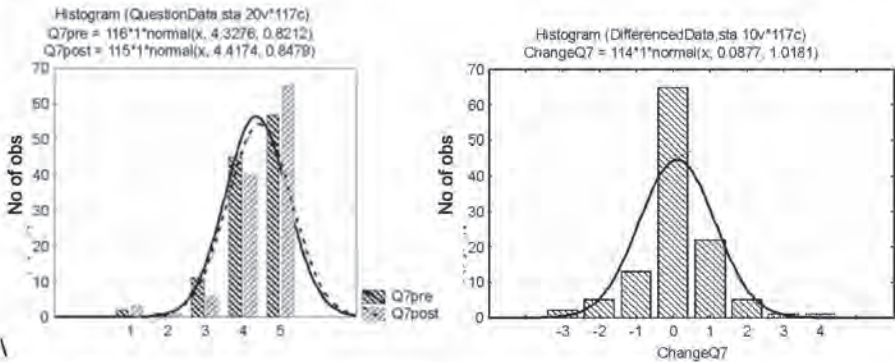


Figure 15: Question 7 responses ("My time will be/has been wasted in this unit")

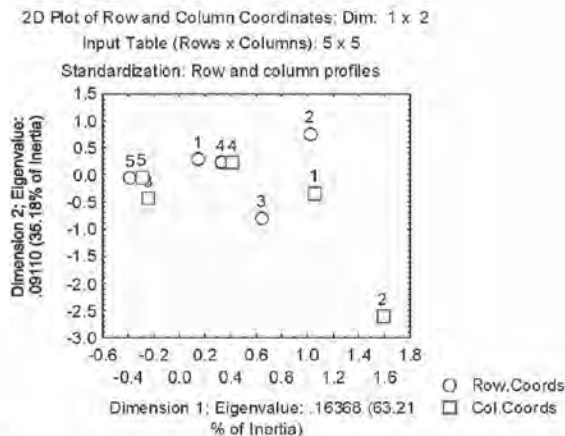
A mean change of 0.0877 is statistically insignificant in a test of the hypothesis that there is no positive attitudinal or response change (t -statistic of 0.92 with a p -value of 0.1798). The bootstrapped 95% confidence interval also has a lower bound of -0.0702, lower than zero, so the interval supports the insignificant t -test.

Table 7: Cross-tabulation of pre- and post-unit responses for question 7

Q7pre	Q7post: 1	Q7post: 2	Q7post: 3	Q7post: 4	Q7post: 5	Row
1	0	0	0	1	1	2
2	0	0	0	1	0	1
3	1	1	1	4	4	11
4	2	0	1	22	18	43
5	0	0	4	11	42	57
All Grps	3	1	6	39	65	114

From the cross-tabulation of the Question 7 pre- and post-unit responses (Table 7), it is apparent that 13 respondents returned responses that were more negative by a single category, seven returned responses that were more negative by more than one category, 22 had a one-category improvement in their attitudes, and seven had more than a one-category improvement. Given these results, it is almost strange that the *t*-test and the related confidence intervals did not indicate significant changes for the better. For this reason, one should take note of the slightly positive mean response change of 0.0877, even though this change was statistically insignificant. The most important result evident from the correspondence analysis biplot for Question 7 (Figure 16) is the proximity of the pre-unit category '1' response to the post-unit category '4' response, indicating once more that the most pessimistic respondents before the unit changed their attitudes drastically.

The results of these statistical tests are summarised similarly to those of Question 5. There are, initially and after the unit, positive attitudes towards this question, meaning participants never felt their time had been wasted. This is again evidence that they enjoyed and appreciated arts-based training in curriculum management.

**Figure 16:** Correspondence analysis biplot of pre- and post-unit responses for question 7

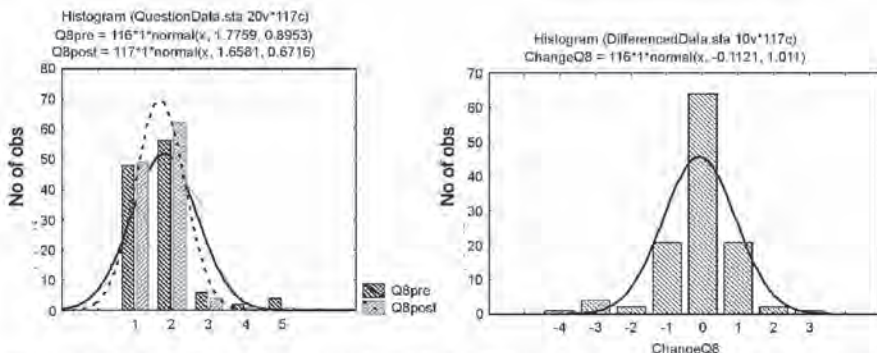


Figure 17: Question 8 responses (“I have a positive attitude towards curriculum management”)

One should note from the distribution histograms above (Figure 17) that the post-unit responses to Question 8 display a lower variation than do the pre-unit responses, which once again indicates a stronger post-unit group consensus. The mean change in responses is a positive attitude shift of -0.1121, but the *t*-test of the hypothesis that there is no negative scale change (i.e. no positive attitude change) fails to reject the hypothesis. A bootstrapped lower 85% confidence interval has an upper bound of 0.0351, which, being above zero, confirms the insignificance of the negative mean response change. Yet Table 8 below leads one to conclude that there were some large positive attitude shifts, although an identical number of respondents indicated a one-category shift to either more positive or more negative perceptions regarding curriculum management. Nevertheless, seven respondents had more than a one-category shift towards more positive attitudes, while only three had shifted more than one category to the negative end of the spectrum. This result is echoed in the correspondence analysis biplot below (Figure 18), which shows the pre-unit responses '3', '4', and '5' lying in close proximity to the post-unit responses '1' and '2'. In summary, although there was no significant change in attitudes, the attitudes themselves were generally always positive. However, without a shift in the observations within this variable, we can say little with regards to support for any of our research questions.

Q1pre	Q8post: 1	Q8post: 2	Q8post: 3	Q8post: 4	Q8post: 5	Row
1	29	18	1	0	0	48
2	16	35	3	1	1	56
3	1	5	0	0	0	6
4	1	1	0	0	0	2
5	1	3	0	0	0	4
All Grps	48	62	4	1	1	116

Table 8: Cross-tabulation of pre- and post-unit responses for question 8

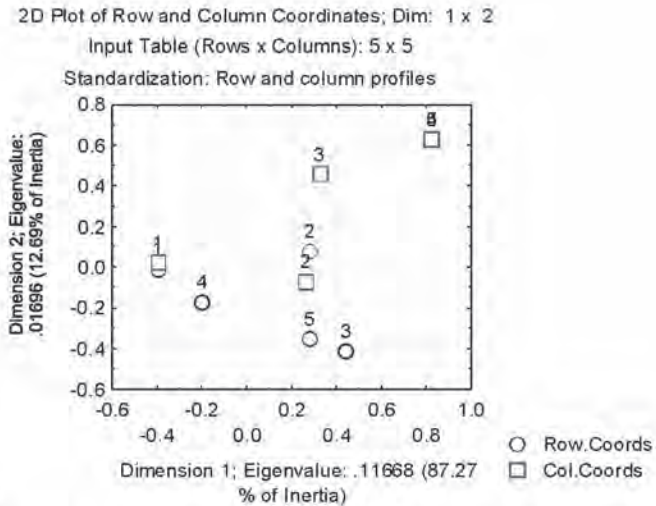


Figure 18: Correspondence analysis biplot of pre- and post-unit responses for question 8

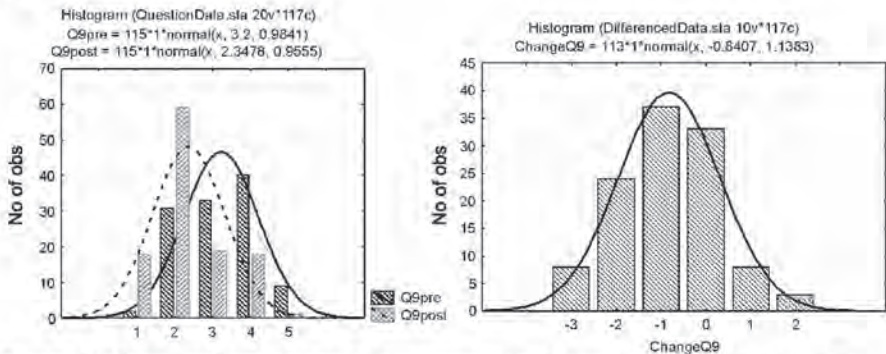


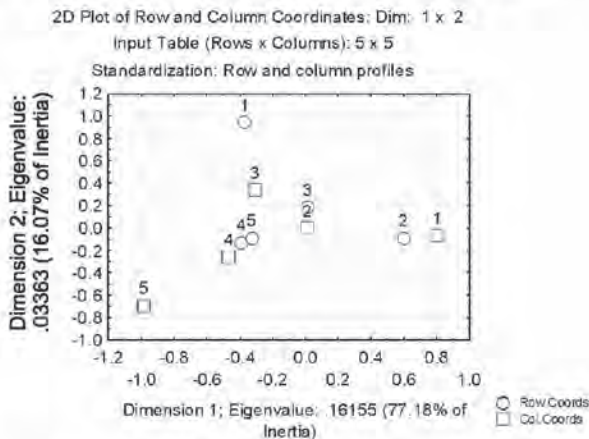
Figure 19: Question 9 responses (“I know enough about curriculum management”)

From the distribution of responses for Question 9 (Figure 19) one can conclude that there has been a shift in the mean response, from around 3.2 to around 2.3; in fact, this change is exactly -0.8407. Using a *t*-test to test the significance of this positive attitude shift seems credible, since the distribution of changes is Normal. The hypothesis that there is a negative change in responses (i.e. a shift towards more positive attitudes after the unit) produces a statistic of -7.8507, which is highly significant (*p*-value smaller than 0.0001), and indicates that there was, indeed, a significant shift. This means that unit attendees were far more positive about the statement regarding knowing enough about curriculum management after the unit had been presented. For the sake of thoroughness, a bootstrapped lower 95% confidence interval has an upper limit of -0.6667 well below zero which serves to confirm this highly significant result.

Table 9: Cross-tabulation of pre- and post-unit responses for question 9

Q1pre	Q9post: 1	Q9post: 2	Q9post: 3	Q9post: 4	Q9post: 5	Row
1	0	1	1	0	0	2
2	11	16	2	2	0	31
3	5	17	7	4	0	33
4	2	18	7	10	1	38
5	0	6	1	2	0	9
All Grps	18	58	18	18	1	113

The cross-tabulation of pre- and post-unit responses (Table 9) supports the significance of the *t*-test - 37 respondents indicated a one-category more positive attitude shift, while an additional 21 indicated a two-category more positive attitude shift, and eight indicated a three-category more positive attitude shift. Conversely, eight respondents felt one category more negative about knowing enough about curriculum management, and three respondents felt two categories less confident about their knowledge in this regard. The correspondence analysis biplot (Figure 20), paints a similar picture: the mass of one-category shifts down the Likert Scale is highlighted by the fact that the four most negative pre-unit response categories are all close to the post-unit response categories that are one level lower (i.e. one level more optimistic). The results from this question are some of the most profound, with generally negative attitudes towards knowing enough about curriculum management shifting significantly to generally positive attitudes towards knowing enough about curriculum management. This lends a great deal of support to a positive response to our second research question, indicating an increase in perceived ability to manage curricula.

**Figure 20:** Correspondence analysis biplot of pre- and post-unit responses for question 9

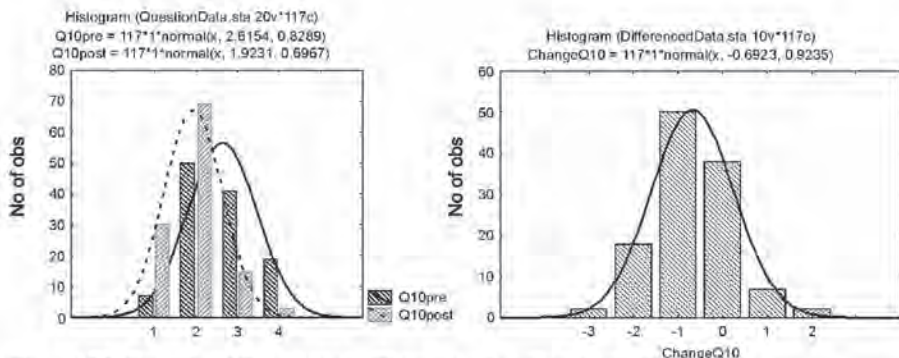


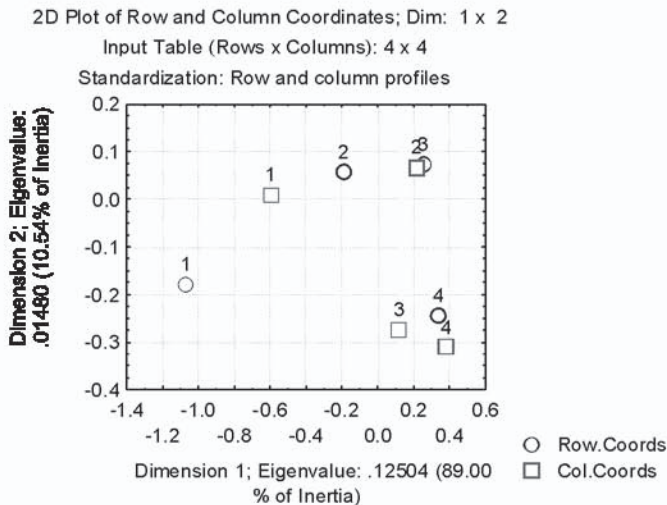
Figure 21: Question 10 responses (“I am an educational artist”)

For Question 10 (Figure 21), a result similar to that of Question 9 is evident: there seems to have been a major shift in the mean response from around 2.6 to around 1.9, and the distribution of changes is clearly Normal, so a *t*-test should give us an accurate result. Additionally, however, the variance of the post-unit responses is smaller than the variance of the pre-unit responses, which once again indicates the effect of post-unit group consensus. The exact change in the mean is -0.6923, which is again highly significant (*t*-statistic of -8.1091 with a *p*-value smaller than 0.0001) in the *t*-test testing the hypothesis that there is no negative scale change (i.e. no positive attitude shift) in the post-unit responses when compared with the pre-unit responses. Again, a bootstrapped lower 95% confidence interval has an upper bound of -0.5470 well below zero confirming the significant result.

Table 10: Cross-tabulation of pre- and post-unit responses for question 10

Q1pre	Q10post: 1	Q10post: 2	Q10post: 3	Q10post: 4	Q10post: 5	Row
1	5	1	1	0	0	7
2	17	27	5	1	0	50
3	6	29	5	1	0	41
4	2	12	4	1	0	19
5	0	0	0	0	0	0
All Grps	30	69	15	3	0	117

The cross-tabulation of the pre- and post-unit responses (Table 10) reveals that 50 individuals changed their attitudes one category down (i.e. to more positive), while a further ten respondents moved two or more categories towards a more positive attitude. Conversely, only nine individuals displayed more negative attitudes in respect of the claim that they were indeed educational artists.



Finally, the correspondence analysis biplot for Question 10 (Figure 22) depicts the same result: a downward shift in the scale, or a shift towards attitudinal positivity. This is most evident in how post-unit response categories '2' and '3' are, respectively, close to pre-unit response categories '3' and '4'.

This question was the only one to address the research problem posing whether the participants would see educators as artists, and it shows a significant move from a slightly positive attitude to a very positive one. This is indeed evidence that these participants' attitudes changed after the module, more generally considering educators as artists after attending the unit.

4. DISCUSSION

The data analysis has revealed that there were significant positive attitude changes in respect of several of the questions. These questions included:

- Question 1: I think I will learn/have learned something new in this unit
- Question 5: I think this unit will be/has been boring.
- Question 6: I am an effective curriculum manager.
- Question 9: I know enough about curriculum management.
- Question 10: I am an educational artist.

In all of these questions, barring Question 9, the attitudes were positive to begin with and became more positive. In Question 9 the attitudes shifted from generally negative to generally positive. In other words, after the unit, respondents generally felt that they had learned more than they had initially expected to, they had found the unit less boring than expected, they felt that they were more effective curriculum managers than they had been before attending the unit, they felt more confident that they knew enough about

curriculum management, and they felt more confident that they were educational artists. In all of the remaining questions, attitudes seem to stay relatively positive. It would thus seem fair to assume that the workshop was an educational experience to most of the school managers, if one accepts Beardsley's definition (1970:4) of the phenomenon: "But when a developmental experience contains a cognitive component - when the person acquires not only a particular power, but an awareness to having that power and some understanding of its worth and of its relationship to other powers - then this experience is an educational experience." We could thus conclude that the aesthetic approach followed during the workshop had surprisingly positive outcomes for many of the school management members. Naturally not all of them were equally impressed, but it is only to be expected ever since the days of Plato that people will disagree on the intrinsic value of the arts.

From the statistical changes evident in the results, one might also with considerable certainty conclude that the participants have learned about curriculum management from their study of works of art. It further seems reasonable to conclude that the participants, in line with the model of learning developed by Lachapelle, Murray and Neim (2003), have constructed new knowledge by cognitively comparing their own mediating knowledge and the objectified knowledge presented in *The paper chase*.

Another positive result stemming from the analysis is that there seems to be a stronger group consensus around positive attitudes after the unit for questions 1, 5, 8 and 10:

- Question 1: I think I will learn/have learned something new in this unit.
- Question 5: I think this unit will be/has been boring.
- Question 8: I have a positive attitude towards curriculum management.
- Question 10: I am an educational artist.

These statistically significant positive attitudinal changes in group consensus provide both encouragement and some kind of a quantitative operational basis for the advocates of the application of an aesthetic approach to teacher training. As Richmond (2009:104) puts it: "It is within the contextual complexity of artistic understanding, richly empowering of the self, brought to bear on the realities and qualities of life in visual and expressive, aesthetic form, that art's distinctive educational value is to be found."

It should be noted, however, that not all the results are as positive as we would have wanted them to be. Although statistically insignificant, the mean responses for Question 3 and Question 4 were all positive on the Likert Scale, which implies a negative attitude shift.

- Question 3: I think this unit will enhance/has enhanced my understanding of curriculum management.

- Question 4: This unit will help/has helped me to improve my classroom practices.

Since most of the responses were however on the positive side, this might be regarded as a possible positive development in that it seems quite possible that some of the school managers realised that they had already understood or applied the principles of good management. This argument is seemingly supported by the improved post-unit responses to Question 6 (“I am an effective curriculum manager.”) and Question 9 (“I know enough about curriculum management.”). Yet this does not mean that the unit cannot be improved by providing more practical hints towards the enhancement of managerial and classroom practices. Because no longitudinal studies have been conducted to establish the effects of the changes brought about by the unit in the workplace, it would be foolhardy to make any claims in this regard. The results discussed above would seem to indicate that Smith’s analysis (1996:49) applies to this study:

“Since the aesthetic point of view is a primordial, basic way of knowing almost anything can be experienced from an aesthetic position it can be applicable to other areas of human experience. Aesthetic education thus has greater potential for achieving transfer of learning than do most other subjects. People who have internalised the aesthetic point of view do not find it difficult to perceive the human career as carefully structured series of behaviours, or to regard the self as a dramatic text that continually changes and must be adapted as life leads to new aim and arrangements.”

Richmond (2009:104) provides a fitting conclusion to the discussion: “Indeed, the creative habit once acquired has many applications beyond art, and this, too, is a component of human freedom. Art, in its guises of making and appreciation, develops consciousness, including feeling, which is a form of intelligible response. Thus, art education embraces a concern for the development of the whole person.”

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NOTE

1. Prominent sources consulted include John Dewey's *Art as experience* (New York: G.P. Putnum's Sons, 1934); Monroe Beardsley's "Aesthetic theory and educational theory" in *Aesthetic concepts and education*, Ed. Ralph A. Smith (Urbana, Chicago and London, University of Illinois Press, 1970) and other essays in this book; Elliot Eisner's "From episteme to phronesis to artistry in the study and improvement of teaching", *Teacher and Teacher Education* (2002):375-85; David Granger's "Teaching aesthetics and aesthetic teaching", *Journal of Aesthetic Education* 40, no. 2 (Summer 2006):45-66; J. Hausman's "Teacher as artist and artist as teacher" *Art Education* 20, vol. (1967):4:13-17; Michael Parks's "The art of pedagogy: artistic behaviour as a model for teaching", *Art Education* (1992), vol. 5:51-57; Donald Schön's *Educating the Reflective Practitioner* (San Francisco and Oxford: Jossey-Bass Publishers, 1987), Richard Lachapelle, Deborah Murray and Sandy Neim's "Aesthetic understanding as informed experience: the role of knowledge in our art viewing experiences", *Journal of Aesthetic Education*, (2003):37(3):78-98; Stuart Richmond's "Art's educational value," *Journal of Aesthetic Education* 43, no. 1 (Spring 2009):92-105 and for this article three articles by Jannie Pretorius (2008, 2009a and 2009b in References).