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Engagement Theory in Action: An Investigation of Athletic Training Program Directors

Kimberly S. Peer, EdD, ATC, LAT
Kent State University, Kent, OH

Objective: To examine the use of good practice indicators by athletic training program directors and to provide a theoretical framework using engagement theory, a learner-centered process focusing on program improvement through continuous planning and evaluation, as a foundation for implementing good practices in athletic training education programs.

Design and Setting: Athletic training education program directors completed the study's instrument. Responses were analyzed using correlations and regression models following return of the instruments via United States mail.

Subjects: Seventy-three undergraduate athletic training education program directors for CAAHEP (now CAATE)-accredited, entry-level programs completed the instrument for this study.

Measurements: Subjects completed a demographic sheet indicating Carnegie classification (research and doctoral or comprehensive and baccalaureate), appointment type (administrative/academic or academic/athletic), and degree type (education or non-education). The participants also completed a faculty inventory based on the "Seven Principles for Good Practice in Undergraduate Education." Data were analyzed using SPSS (Version 10.0). The independent variables were institution type, program director appointment type, and terminal degree type. The dependent variables were the collective and individual subscale scores on the inventory.

Results: There were no differences in self reported principles of good practice between program directors of different institution, appointment or terminal degree types. It was clear however, that athletic training program directors across the country report use of quality practices in their teaching.

Conclusions/Recommendations: Engagement theory provides a strong foundation for implementing quality indicators in both didactic and clinical instruction in athletic training education programs. The faculty inventory used in this study provides athletic training educators an instrument to use to reflect upon current practices to determine whether they reflect the quality indicators that promote engagement.

Key Words: instructional quality indicators, learner-centered, continuous quality improvement (CQI)

Introduction

As entry-level athletic training education programs continue to progress to meet changing accreditation standards, educational quality has come to the forefront. Athletic training is not alone in the quest for quality. Over the years, American higher education has been challenged with issues regarding the quality of education as a whole. The American Association for Higher Education (AAHE) responded by forming an Academic Quality Consortium to apply the Total Quality Management (TQM) philosophies of the business world to academics.[1] In the healthcare and academic fields, TQM is referred to as Continuous Quality Improvement (CQI). Regardless of the label, this movement has certainly been met with both enthusiasm and skepticism by the academy.[2,3,4] As institutions are faced with the internal and external challenges of the 21st century, quality issues will certainly take a commanding position in the increasingly competitive environment of higher education and athletic training education.

The 1990 report by the Association of American Colleges - *Integrity in the College Curriculum: A Report to the Academic Community* - focused on the continued decline and devaluation of the undergraduate degree.[5] Although confidence in higher education had been subject to skepticism in the past, this report initiated

Kimberly Peer serves as the ATEP Coordinator and an Associate Professor at Kent State University. Her research interests are athletic training education and professional ethics.
Kpeer@kent.edu

widespread contemporary skepticism about the concept of quality in higher education. Considerable It emphasized three major areas of assessment in higher education: student performance, programs, and faculty. The report declared that "the professors are fundamentally responsible and therefore charged with designing and monitoring the mechanisms of assessment."[5 (p. 33)]

Moreover, this landmark report emphasized the role of the faculty in ensuring and monitoring quality in higher education. Faculty preparation and reward systems were also presented as critical issues related to quality. Solutions to measuring and monitoring quality practices in education, however, have been difficult to identify and resolve. Balderstone[6] contends that the problems of identifying, measuring, analyzing, and evaluating teaching and learning are enormous.

Conrad and Haworth[7] have taken a unique approach to quality assessment. Their learner-centered approach, coined engagement theory, places continuous learning at the center of the program improvement effort and underscores the critical role of planning and evaluation in the process.

Engagement Theory

This conceptual framework considers administrators, faculty and student interaction in a dynamic environment. It has four caveats: constant commitment to student learning, inclusivity and engagement, continuous program improvement, and multiple methods of assessment. Based on specific attributes, the engagement theory of quality assessment is consistent with empirical literature on learning and teaching and includes the following attributes:

- diverse and engaged faculty,
- diverse and engaged students,
- engaged leaders,
- shared program direction,
- community of learners,
- risk-taking environments,
- critical dialogue,
- integrative learning,
- mentoring,
- cooperative peer learning,
- out-of-class activities,
- planned depth and breadth of course work,
- professional residency,
- tangible products,
- support for students, and
- support for faculty.[8-16]

This multidimensional assessment of quality in higher education is also supported in the educational program quality literature. Students who are actively engaged in the learning process have higher quality experiences in college.[17-19] Additionally, the Context, Inputs, Process, Products (CIPP) model supports the multidimensional approach to assessment.[3,20] Leadership literature also supports the importance of faculty and students who bring diverse educational experiences to the higher educational environment.[21-24]

Engagement theory highlights the pivotal role of people in educational quality initiatives while encouraging critical dialogue. It integrates the relationships between the inputs, processes, and outputs of the learning environment. Lastly, engagement theory is comprehensive which has the potential to facilitate program quality that will affect all of the stakeholders in the undergraduate educational experience.[7]

Quality Indicators

Quality indicators in higher education have been investigated and applied widely in educational research.[11,12,13,16,18,20] As a result, quality indicators have been developed which reflect benchmarks for effective undergraduate instruction.[25,26] In particular, instructional practices designed to improve collegiate teaching and learning have also been widely studied.[27] Instructional quality involves indicators related to learning and teaching such as time on task, feedback, and active learning.

Institutional requirements and instructional activities are two broad categories in the development of "good practice" indicators.[28] Institutional requirements involve undergraduate requirements relative to curricular features associated with developing critical thinking, communications, or problem solving. Instructional good practice assesses the degree to which typical student instructional experiences are consistent with established principles of good practice in undergraduate teaching.[25,29,30] The wealth of literature documenting good practice in undergraduate teaching is broad and includes, but is not limited to, areas such as critical thinking,[31] communications,[32] and effective teaching practice.[14] Ewell[33] addressed the role of quality indicators in teaching from a policy perspective regarding faculty development.

Quality indicators, commonly called good practice indicators, allow faculty to self-analyze their current instructional practices / behaviors. Through reflection following periodic self-assessments, athletic training educators can determine if they are using strategies and techniques that promote engagement.

The purpose of this study was to investigate the degree to which athletic training program directors reflected established quality indicators which are rooted in Engagement theory in their instructional practices. A second purpose was to determine if variables such as educational degree, Carnegie classification, and appointment type impact the use of quality indicators and if they used engagement theory to provide a framework for program improvement.

Methods

A self-reflective faculty inventory was used to investigate the degree to which the practices of athletic training education program directors reflect good practice in undergraduate education. The inventory reflects good practice in undergraduate education, and each inventory was scored collectively and by each individual subscale (7 for Faculty Inventory). Carnegie classification, appointment type and degree type were all considered variables.

Research Design

An ex post facto design with hypotheses guided this study. The independent variables were institution type (research – Carnegie Research I, II, Doctoral I, II or non-research – Comprehensive I, II Baccalaureate I, II); program director appointment type (academic/athletic or exclusively academic/administrative); and program director terminal degree type (education or not). The dependent variables were the collective and individual subscale scores (student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, communicates with high expectations, respects diverse talents and ways of learning). The hypotheses were that each of the independent variables would account for a unique amount of variance on the total and subscale scores. While this study was ex post facto in nature, educational theory, general hypotheses, and empirical research guided it. The development of the research question and the establishment of hypotheses prior to the actual study helped control for alternate explanations and bolstered the research's internal validity. Additionally, reliability estimates for internal consistency using the Cronbach α were performed on the data prior to analysis of the hypotheses. Alpha coefficients ranged from .71 to .79.

Participants

Non-probability sampling consisted of 125 program directors from undergraduate, entry-level, CAAHEP (now CAATE)-accredited programs as of September 2000. (Table 1) They were asked to complete the faculty inventory relative to specified principles of good practice in undergraduate education. About 60% (72/125) returned the surveys. The 73 participants were almost equally divided between research and doctoral institutions and comprehensive and baccalaureate institutions. Most (64/73; 87.7%) reported having an administrative/academic appointment type, while only 9 (12.3%) had an academic/athletic appointment. Three fourths (56/73;76.7%) had a degree in the education field.

Table 1. Participant Characteristics

Total Respondents	73 (100%)
Institution Type	
Research/Doctoral	36 (49.3%)
Comprehensive/Baccalaureate	37 (50.7%)
Appointment Type	
Administrative/Academic	64 (87.7%)
Academic/Athletic	9 (12.3%)
Degree Type	
Education	56 (76.7%)
Other	17 (23.3%)

Instruments

After a thorough review of the related literature, The Seven Principles for Good Practice in Undergraduate Education Faculty Inventory[34] selected for use in this study: It was derived from a project initiated in 1986 under the auspices of the American Association for Higher Education (AAHE), the Education Commission of the States, and The Johnson Foundation, and developed by respected leaders in the field including Arthur W. Chickering, Zelda F. Gamson, and Louis M. Barsi.[34]

The faculty inventory consists of 70 components divided into seven different subscales. Each inventory uses a checklist with very often, often, occasionally, rarely, and never as the response components. At the end of each heading, several open-ended statements are included to promote self-reflection. Qualitative analysis of the statements was not performed as part of this study.

The instruments (including the demographic sheet) were administered to an expert panel of five directors of accredited, entry-level athletic training education programs for content validity. This instrument was found to have extensive content by the panel who agreed that the content in the survey was relevant and contextually appropriate. Despite the extensive use of this instrument in other educational settings, predictive validity of this instrument was not established for athletic training.

The reliability of this instrument is derived from the extensive use of this inventory. Additionally, reliability coefficients were calculated for the Faculty and Institutional Inventories. The Cronbach α measure is reflected in Table 2 for each of the subscales (7 for the Faculty Inventory). Cronbach α estimates for the faculty inventory ranged from .71 for Diverse Talents and Ways of Learning to .79 for Time on Task. All alpha coefficients were above the .65 value needed for the group prediction and most were near the .80 value needed for individual prediction. All statistics were analyzed using the SPSS (Version 11.0; Chicago, IL).

Data Collection

On September 10, 2000, the faculty inventory was mailed to all CAAHEP (now CAATE)-accredited program directors (125) via United States Postal Service. Each inventory included specific instructions for completion and a demographic information sheet that specified Carnegie classification, appointment type, and degree type. After completion of the inventory, the participants were instructed to return the inventory via United States mail in the self-addressed, stamped envelope provided. A deadline of 1 month was granted for the return. In November, 37 (29.6%) of the 125

Table 2. Reliability Coefficients for the Faculty Inventory Subscales

Variable	Cronbach α
FACULTY INVENTORY (10 items for each subscale)	
Faculty-Student Contact	.77
Cooperation Among Students	.75
Active Learning	.76
Prompt Feedback	.75
Time on Task	.79
High Expectations	.72
Diverse Talents and Ways of Learning	.71

Note: N = 73 for each Reliability Coefficient.

inventory packets had been returned. Following personal contact via phone and/or email correspondence, an additional 25 packets were mailed to those who had misplaced or lost the original packet and an additional 43 program directors indicated that they still had the packets and would complete and return them to the researcher. At the end of December 2000, a total of 78 (62.4%) of the 125 program directors had returned the packet. Five of the packets had to be discarded because the demographic sheets were not thoroughly completed or were missing, for a response of 58.5% (73/125).

Statistical Treatment

Participants were grouped according to Carnegie classification, appointment type, and degree type**.** Means and standard deviations were derived for the total faculty inventory and each of the seven subscales using Carnegie classification, appointment type, and degree type as variables.

Linear regression was used to test the specific research hypotheses that the independent variable would account for a unique amount of variance in program directors' use of quality indicators in their teaching practice. Formulas reflecting each specific research hypothesis were written.

. Multiple linear regression was used to test the statistical significance of the proposed relationships. Full and restricted regression models were written to reflect each research question.

An F test was used to determine if the R^2 of the full and restricted models were significantly different ($p \leq .05$).[35] Due to its flexibility, multiple linear regression was chosen over traditional analysis of variance. Due to the limited and often conflicting research, 2-tailed tests of significance were used to test each relationship. A power analysis was run on an N of 73 ($\alpha \leq .05$) for small, medium, and large effects respectively ($f^2 = .02$, $f^2 = .15$, $f^2 = .35$). The power for the study is approximately .29, .89, and .99+ at the respective effect sizes.

Results

Participant characteristics for institution type, appointment type, and degree type are in Table 1.

Means for the total faculty inventory and its subscales are in tables 3-5 for Carnegie classification (Table 3), appointment type (table 4), and degree type (Table5). There was essentially no correlation between institution type, appointment type, or degree type (Table 6). Nor were there differences on the total faculty inventory or subscales between Carnegie classification, appointment type, or degree type (Tables 8-10)

Discussion.

It appears there were consistent beliefs about the use of Instructional practices related to engaging students among athletic training program directors regardless of the type of institution they are employed at, whether their employment involves an athletic assignment or if they have an education degree.

Table 3. Subscale Scores by Carnegie Classification on Faculty Inventory (Mean ± SD; N=73)

Variables	Research and Doctoral (N=36)	Comprehensive and Baccalaureate (N=37)
Faculty-Student Contact	40.03 ± 5.35	39.86 ± 4.59
Cooperation Among Students	36.47 ± 5.62	36.86 ± 5.21
Active Learning	37.94 ± 5.45	38.35 ± 4.98
Prompt Feedback	34.50 ± 6.55	34.00 ± 5.05
Time on Task	40.00 ± 6.57	39.73 ± 5.62
High Expectations	43.09 ± 4.05	42.19 ± 4.29
Diverse Talents & Ways of Learning	35.03 ± 5.97	33.62 ± 4.40
Total Score	267.06 ± 33.58	264.62 ± 25.32

Note: No statistical differences found for these variables.

Table 4. Subscale Scores by Appointment Type for Faculty Inventory (Mean ± SD, N=73)

Variables	Academic/Administrative (N=64)	Academic/Athletic (N=9)
Faculty-Student Contact	39.98 ± 5.10	39.67 ± 3.94
Cooperation Among Students	37.00 ± 5.52	34.33 ± 3.64
Active Learning	38.58 ± 5.27	35.11± 3.41
Prompt Feedback	34.34 ± 6.04	33.56 ± 3.91
Time on Task	40.23 ± 6.07	37.22 ± 5.67
High Expectations	42.97 ± 3.96	40.22 ± 5.04
Diverse Talents & Ways of Learning	34.30 ± 5.24	34.44 ± 5.59
Total Score	267.41± 30.00	254.56 ± 24.56

Note: No statistical differences between these variables.

Table 5. Subscale Scores by Degree Type for Faculty Inventory (Mean ± SD; N=73)

Variables	Education (N=56)	Non-education (N=17)
Faculty-Student Contact	39.88 ± 5.12	40.18 ± 4.48
Cooperation Among Students	36.62 ± 5.55	36.82 ± 4.93
Active Learning	38.27 ± 5.24	37.76 ± 5.14
Prompt Feedback	34..68 ± 5.66	32.82 ± 6.23
Time on Task	39.93 ± 5.94	39.65 ± 6.63
High Expectations	42.68 ± 4.02	42.47 ± 4.76
Diverse Talents & Ways of Learning	34.50 ± 5.30	33.71 ± 5.16
Total Score	266.55 ± 29.37	263.41 ± 30.72

Note: No statistical differences found for these variables.

Table 6. Pearson Correlation – Faculty Inventory by Subscale Correlational Values (N=73)

Variable	Carnegie Class	Appointment Type	Degree Type
Faculty-Student Contact	.017	.021	-.026
Cooperation Among Students	-.037	.164	-.016
Active Learning	-.040	.221	.041
Prompt Feedback	.043	.045	.136
Time on Task	.022	.047	.020
High Expectations	.108	.218	.021
Diverse Ways of Learning	.135	-.099	.064
Faculty Total	.042	.144	.045

Table 7. Summary of Models Tested, R^2 Values, F Ratios, and Significance Levels for Carnegie Classification and Faculty Inventory Subscale Scores

Hypothesis	$R_{2\,f}$	R^2_r	R^2	df1/ df2	F	P
CC and Faculty Inventory						
Total Score	.025	.023	.002	1/69	.121	.72
Faculty-Student Contact	.001	.001	.000	1/69	.012	.91
Cooperation Among Students	.029	.027	.002	1/69	.141	.70
Active Learning	.053	.051	.002	1/69	.137	.71
Prompt Feedback	.024	.021	.003	1/69	.224	.63
Time on Task	.028	.027	.001	1/69	.025	.87
High Expectations	.059	.048	.011	1/69	.778	.38
Diverse Talents & Ways of Learning	.025	.004	.021	1/69	1.45	.23

Note: R^2f = Full Model, and R^2r = Restricted Model ($p \leq .05$).

Table 8. Summary Table of Models Tested, R^2 Values, F Ratios, and Significance Levels for Degree Type and Faculty Inventory Subscale Scores

Hypothesis	$R_{2\,f}$	R^2_r	R^2	df1 /df2	F	P
Degree Type and Faculty Inventory						
Total Score	.025	.022	.003	1/69	.182	.67
Faculty-Student Contact	.001	.001	.000	1/69	.041	.84
Cooperation Among Students	.029	.029	.000	1/69	.025	.87
Active Learning	.053	.051	.001	1/69	.109	.74
Prompt Feedback	.024	.004	.020	1/69	1.42	.23
Time on Task	.028	.027	.001	1/69	.038	.84
High Expectations	.059	.058	.001	1/69	.084	.77
Diverse Talents & Ways of Learning	.025	.018	.006	1/69	.441	.50

Note: R^2f = Full Model and R^2r = Restricted Model ($p \leq .05$).

Table 9. Summary Table of Models Tested, R^2 Values, F Ratios, and Significance Levels for Appointment Type and Faculty Inventory Subscale Scores

Hypothesis	$R_{2\,f}$	R^2_r	R^2	df1/ df2	F	P
Appointment Type and Faculty Inventory						
Total Score	.025	.004	.020	1/69	1.45	.23
Faculty-Student Contact	.001	.001	.000	1/69	.029	.86
Cooperation Among Students	.029	.002	.027	1/69	1.95	.16
Active Learning	.053	.003	.050	1/69	3.63	.06
Prompt Feedback	.024	.022	.002	1/69	.138	.71
Time on Task	.028	.001	.027	1/69	1.91	.17
High Expectations	.059	.013	.046	1/69	3.37	.07
Diverse Talents & Ways of Learning	.025	.024	.000	1/69	.013	.90

Note: R^2f = Full Model and R^2r = Restricted Model ($p \leq .05$).

Table 10. Faculty Inventory Subscale Score Beta Weights and t Values for Appointment Type, Degree Type, and Carnegie Classification

	Independent Variable	b	t	P
Faculty Total	Appointment Type	12.76	1.20	.233
	Degree Type	3.54	.427	.671
	Carnegie Classification	2.44	.348	.729
	R^2 = .025, F (1,69) = .729			
Faculty-Student Contact	Appointment Type	.307	.171	.865
	Degree Type	-.283	-.201	.841
	Carnegie Classification	.130	.110	.913
	R^2 = .001, F (1,69) = .913			
Cooperation Among Students	Appointment Type	2.69	1.39	.168
	Degree Type	-.238	-.158	.875
	Carnegie Classification	-.478	-.375	.709
	R^2 = .029, F (1,69) = .709			
Active Learning	Appointment Type	3.50	1.91	.061
	Degree Type	.473	.330	.743
	Carnegie Classification	-.449	-.370	.713
	R^2 = .053, F (1,69) = .713			
Prompt Feedback	Appointment Type	.775	.372	.711
	Degree Type	1.94	1.19	.238
	Carnegie Classification	.653	.474	.637
	R^2 = .024, F (1,69) = .637			
Time on Task	Appointment Type	3.00	1.38	.172
	Degree Type	.332	.195	.846
	Carnegie Classification	.228	.158	.875
	R^2 = .028, F (1,69) = .875			
High Expectations	Appointment Type	2.70	1.84	.071
	Degree Type	.334	.290	.772
	Carnegie Classification	.859	.882	.381
	R^2 = .059, F (1,69) = .381			
Diverse Talents & Ways Of Learning	Appointment Type	-.219	-.116	.908
	Degree Type	.978	.664	.509
	Carnegie Classification	1.49	1.20	.233
	R^2 = .025, F (1,69) = .233			

It is apparent, however, that athletic training education program directors are using strategies and techniques that promote student engagement (good practice behaviors) on an occasional to frequent basis in the delivery of their programs. This knowledge, along with objective outcome data such as program graduation rates and national certification exam scores, demonstrates that CAAHEP (now CAATE)-accredited entry-level, athletic training education programs promote student learning and development as major educational reform evolves. The use of good practice indicators such as active learning, time on task, and faculty-student contact all support the premise of Engagement theory which promotes a multidimensional, comprehensive approach to quality assessment.[7]

Reflection on current instructional practices, above and beyond accreditation, can provide a framework for growth. The analysis of quality indicators can be used to impact the multiple stakeholders in athletic training education programs. Students, faculty, administrators, and accreditation boards can benefit from efforts to improve learner-centered educational programs.

Athletic training education is progressing through its formative years as athletic training education programs are fully immersed in reform. Although broad research is emerging in the area of quality indicators,[36-42] additional research in the didactic and clinical athletic training settings is needed. Research in the area of athletic trainer knowledge of quality indicators in education would also be insightful. Furthermore, continued research into the commonly used instructional practices of athletic training educators would be helpful as the profession matures. Additionally, further research into the design of curricula for athletic training education programs may facilitate program and faculty development. Research in the area of curriculum development, curricular approval processes, and curriculum implementation may provide insights into the hesitancy regarding new curricular developments in many existing athletic training education programs. This could ultimately affect how instruction is delivered.

Conclusion

Although ambiguous by definition, quality is a critical issue for education in America. As athletic training education reform progresses, perhaps the principles of CQI should be investigated as a means of formulating strategic plans to ensure viability and success. Accreditation is one step towards ensuring quality and quality improvement must be an on-going process. Although various methods of assessing quality have contributed to the understanding of quality in higher education, additional knowledge is needed to fully address the quality of instruction and learning in higher education. A self-reflective tool such as the instrument used in this study can provide valuable insight into practices of athletic training educators and enhance the continuous improvement from a quality indicator perspective.

Investigations into the "learner-centered" functions of the faculty can provide significant information regarding the practices utilized in educational programs—specifically those practices related to the engagement theory of learning.[7] This information can facilitate the continuous quality improvement efforts of the administrators of specific educational programs, specifically undergraduate athletic training education programs.

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