
Learning orientations of students in an African Developing Country: Implications for knowledge transfer

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This case study investigated the impact of two principle learning orientations of students (grading orientation vs. learning orientation) in order to evaluate their readiness to make a contribution to address the ever-increasing demands of society. The study revealed that students are aware that a learning orientation is preferred, and that their study behaviour is indeed learning oriented.

Introduction

Higher education has largely developed with little or no pertinent reference to the needs of the economy, the possibility of employment, or being an entrepreneur. Khosa (2001: 215) stated that students begin their studies in the hope that a degree will help them to find a job in which their skills and abilities will be used and in which commitment and energy will be rewarded. Saying that, one also has to realise that higher education institutions do not only fulfil a function regarding employment and preparation for becoming an entrepreneur. Students also enrol at higher education institutions because they aspire to unlock their own intellectual potential, and broaden their cultural and intellectual experience.

The purpose of higher education institutions can thus be described as to provide students with sound theoretical theories, new ideas, innovative technologies and new ways of thinking culminating in learning orientations conducive to contribute value to society and to grow intellectually as human beings. The learning experience at Higher education institutions is thus a multi-dimensional representation that demands a thorough understanding and elaborated view of learning as *process*, the *context* in which it occurs, the *purpose* it has for the learner, and what *outcomes* society can expect from higher education institutions.

Literature Review

Information and knowledge are at the centre of the world this century. Higher education institutions, and African societies in general, will need to adapt to the new realities. Universities and Technikons will be called upon to produce the competent and highly trained personnel required not only adding value for national development, but also to the global community. African higher education institutions will therefore be forced to be versatile in their approach. They will be called upon to serve local needs while operating as part of the international knowledge system. This will according to Katjavivi (2002:1) pull higher education institutions into different directions while attempting to launch their communities into orbit in the vital global political, social, and economic universe. Further, if higher education institutions are to be successful in supplying graduates prepared to fulfil their roles in the community and global market, there need to be, according to Brewer and Grey (1998) close links between institution, faculty, and the marketplace in terms of program offerings, content of those programs, and subsequent placement of students into jobs. Gibbons (1998) made a number of interesting observations in his excellent book on "Higher Education Relevance in the 21st Century". He indicated the following trends:

- *The main change that will take place as far as higher education institutions are concerned is that knowledge production and dissemination will no longer be self-contained activities, carried out in relative isolation. These activities will involve a variety of other knowledge producers.*
- *The challenge will be to get knowledge that may have been produced anywhere in the world to the place where it can be used effectively in a particular problem-solving context.*

- Higher education institutions will play major roles not only in national, but also in regional economic development, in the delivery of life-long learning, and in the development of civic culture.

Disparity between curriculum content and industry demands has several unfortunate consequences, according to Bailey, Koppel, and Waldinger (1998). For many students, disparity will imply that higher education institutions fail to prepare them adequately for future roles as they fail to acquire the skills and competencies needed in the modern economy. This in turn will weaken the competitiveness of the country's economy and threatens the population standard of living. The disconnection between higher education and post education experiences may rob higher education of meaning, failing to provide strong motivation for learning.

Cognitive scientists have also concluded that learning is more effective when it is embedded in the use to which that learning will be put. Thus, education that is connected more directly to industry activities is believed to be more effective pedagogically and better prepares students for a faster changing world and workplace. Certainly, one way to connect learning to the outside world is to actually conduct some of that learning in the workplace, as in apprenticeships or cooperative education. Another approach is to attempt to reform the higher education institutions themselves so that students gain experiences that more closely reflect broader activities of industry (Bailey, T., Koppel, R., and Waldinger, R. 1998).

Despite the trends in higher education and the implications of disparity between curriculum content and industry demands, the traditional academic curriculum remains the mainstay of higher education, and many higher education reforms emphasize improvement in academic subjects or a grade orientation. Efforts to define new academic competencies do not delineate relationships among academic competencies and industry related competencies. Yet, higher education institutions are extremely important agents of socio-economic change. (Belanger.1989). For this reason it is worth the effort to critically assess the relevance of the academic curriculum and the way it is presented against some of the criteria set by the leading learning theories as described in Table 1:

Table 1: Learning theories

Contiguity Theory of Guthrie	Constructivist Theory of Bruner	Conditions Learning theory of Gagne
<p>Description: Learning is a consequence of association between a stimulus and a response.</p> <p>Principles: For conditioning to occur, learners must actively respond (<i>Do things</i>). Instruction must present very specific tasks. Exposure to many variations in stimulus patterns is desirable to produce a generalised response.</p>	<p>Description: Learning is an active process in which learners construct new ideas based upon current or past knowledge. Cognitive structure allows individuals to go beyond the information given.</p> <p>Principles: Instruction must be concerned with experiences and contexts that make students <i>willing and able to learn</i>. Instruction must be structured so that learners can easily grasp it. Instruction should be designed to facilitate extrapolation.</p>	<p>Description: Different types of learning requires different types of instruction.</p> <p>Principles: Required learning outcomes prescribe <i>teaching type</i>. Specific conditions for learning need to be present. Specific operations that constitute instructional events are different for each different type of learning outcome.</p>
Cognitive-Experiential Theory of Rogers	Social Development Theory of Vygotsky	Situational Learning Theory of Lave
<p>Description: Two types of learning occurs, namely cognitive learning and experiential learning. As experiential learning addresses the needs and wants of learners, experiential learning is equivalent to personal change and growth.</p> <p>Principles: Learning content should be relevant to personal interest. New attitudes and perspectives are more easily assimilated when external threats are at a minimum. Self-initiated learning is the most lasting.</p>	<p>Description: Social interaction plays a fundamental role in the development of cognition.</p> <p>Principles: Cognitive development is limited to a certain range at any given age. Full cognitive development requires social interaction.</p>	<p>Description: Learning is a function of the activity, context, and culture in which it occurs.</p> <p>Principles: Learn in an authentic context i.e. settings and applications that would normally involve that knowledge. Learning requires social interaction and collaboration.</p>

From the above theories one can deduct that transfer of knowledge in general and therefore also to the work environment will best occur when:

- Learners are actively involved in the learning process.
- Learners are able to generate generalised responses.
- Learners' willingness and ability to learn are influenced by contextualising learning content.
- Learners have to extrapolate on what they have learned.
- Learners learn under the right learning conditions.
- Learners received relevant training that accommodates self-initiated learning, personal interest, an authentic context, and an appropriate social and conducive learning environment.

Objectives and methodology of the research

It is in the interest of higher education institutions to have students who succeed in their studies and simultaneously ensure that they supply graduate students to industry and the labour market that will meet the demands of the market. The principle aim of this research was to investigate two principle learning orientations of students in order to make deductions with regard to their readiness to make a contribution to society. The learning orientations investigated are labelled and defined as:

Grade orientation – This orientation emphasises learning for the sake of learning. Students tend to construe their tertiary career in terms of the grades they obtain. Grades, rather than learning, become the primary objective of the students.

Learning orientation – This orientation emphasises learning as a mechanism whereby students get the opportunity to gain access to significant ideas, innovative technologies, and new ways of thinking.

This study then assesses the positive and negative values that students attach to learning and grade orientations. Three main components were assessed namely, current orientation towards studies, current study behaviour, and ideal study behaviour. Differences between current and ideal scores were considered to be indicative of the degree of dissatisfaction with their present orientations. The ideals expressed are considered to be necessary change catalysts that will guide adaptation of current learning behaviours.

The measuring instrument

A 5-point scale questionnaire was designed in order to measure different aspects of students' orientations towards their studies as well as with regard to their study behaviours. A response of 1 with regard to any question was indicative of a student having a complete learning orientation with regard to that question, whilst a response of 5 was indicative of a complete grade orientation with regard to that question. The questionnaire comprised 20 questions. Student orientations were determined by calculating the sum of all students' responses to all questions.

Total student grade orientation would be achieved if all students' responses to all questions were equal to 5 whilst a total student learning orientation would be achieved if all students' responses to all questions were equal to 1. The middle value between a total grade and a total learning orientation represents the "turning point" between learning and grade orientations. Scores below middle values represent a learning orientation, whilst scores above the middle value represents a grade orientation.

Sample description

A total number of 209 (n) students out of a total population of 1283 (N) Polytechnic of Namibia students with Economics as subject were randomly selected. This represents a 16,3% sample, which was considered representative of the population. The following fields of study were represented in the sample:

- Commerce (73,9%)
- Marketing (18,5%)
- Public management (7,6%).

The questionnaire considered the following categorical variables in order to evaluate the relationship thereof with student learning orientations:

- Gender
- Age

- Language group
- Students repeating subjects or not
- Church membership

The sample consisted of 61,7% female and 38,3% male respondents and the average age of students was 25,5 years (with 56,4% of the students being older than 25 years). Almost half (49,1%) of the students had to repeat subjects (most - 80,8% of those who repeat subjects - repeat 1 subject with an average of 1,2 subjects) and 92,4% of the respondents indicated church membership.

Data analysis

The Chi-square test was utilised to test goodness of fit between response distributions of different categorical variables. No difference could be illustrated between the response distributions of:

- Gender
- Fields of study
- Study years
- "Repeaters" vs. "non-repeaters"
- Church members vs. non-church members

With regard to the following categorical variables chi-square test values were not valid due to the fact that the variable presented too many categories, and that too few responses per category were obtained:

- Language group
- Region where school years were spent
- Age group

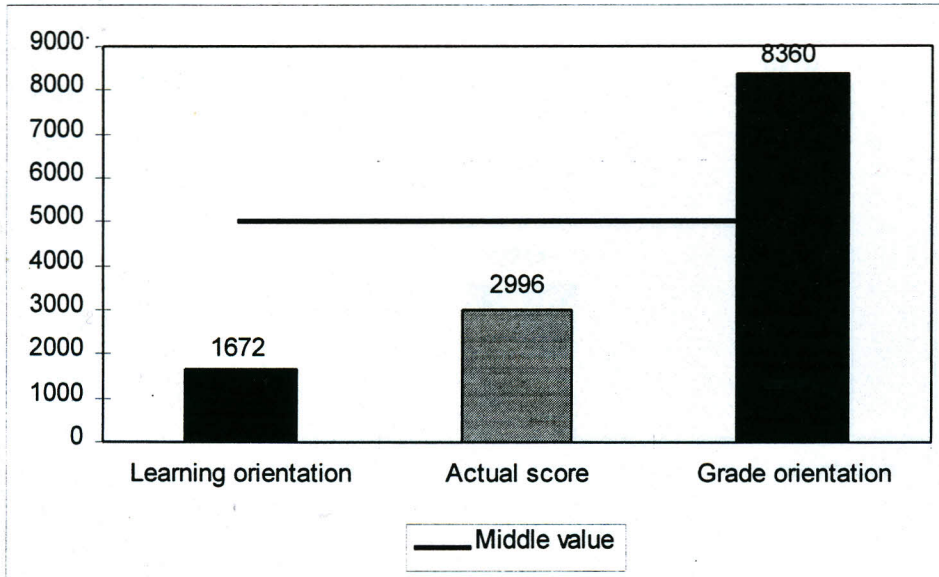
Interpretation of the results

By relating the research on learning orientation to the design of learning environments and learning content it is possible to investigate how learners approach their learning, how they perceive themselves as learners and what they value in the learning experience.

Study orientation

Figure 1 indicates the orientation of students towards studies. A potential total score of 1672 was achievable for a complete student learning orientation (i.e. if all students had allocated a value score of 1 to each question). On the other hand, a potential total of score of 8360 was achievable for a complete student grade orientation (i.e. if all students had allocated a value score of 5 to each question). The middle value – represented by the horizontal line – represents the "turning point" between learning and grade orientations. In figure 1 the actual scores of the students fall below the middle value indicating that students know that they have to be learning orientated.

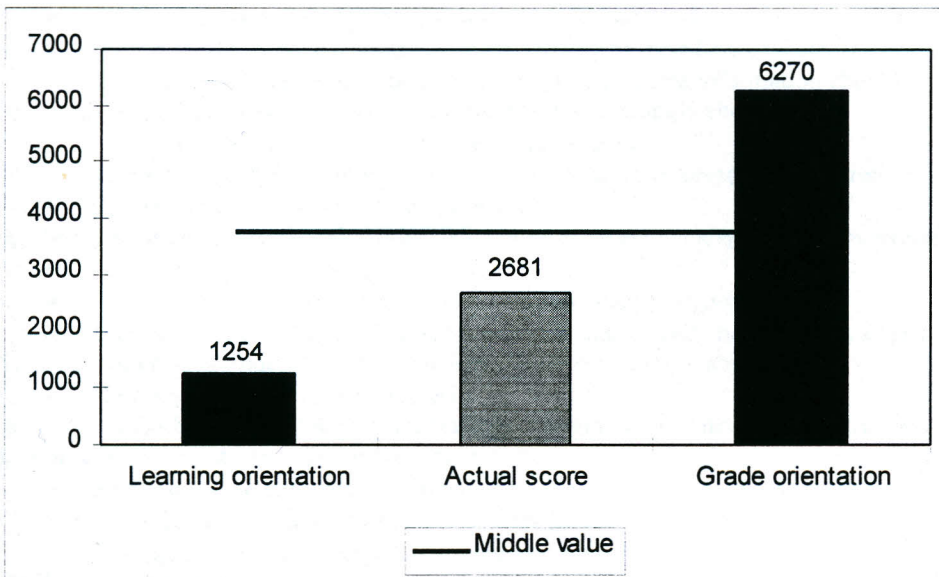
Figure 1: Orientation towards studies



Current study behaviour

Current study behaviour of students as indicated by figure 2 shows little less learning orientated

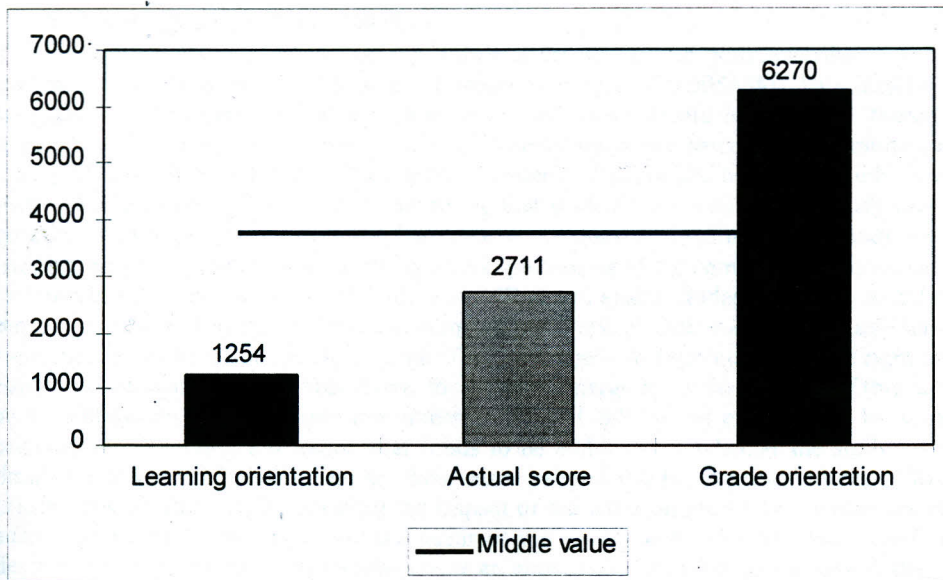
Figure 2: Current study orientation



Ideal study behaviour

Figure 3 indicates that the students' ideal study orientation is a learning orientation.

Figure 3: Ideal study behaviour



Orientation determining factors

Analysing the individual variables it is revealed that in their current orientation towards studies, learning orientated students feel more strongly about:

- Their most important objective is to understand and be able to apply the content of the course
- It is important to have a thorough understanding of their field of study in order to find a good job
- The purpose of studying is to gather as much as possible information about their field of study

The grade orientated students on the other hand feel most strongly about:

- High marks being an indication of academic success
- Students should be examined on their understanding of prescribed material
- Others expecting them to obtain high marks

Analysing their current study behaviour the learning orientated students feel more strongly about:

- Relating course content and practice
- Making use of various sources of information when studying
- Constantly attempting to obtain as much information and understanding as possible about field of study

The grade orientated students on the other hand feel most strongly about:

- Knowing prescribed course material

With regard to ideal study behaviour the learning and grade orientated students respond respectively as follows:

Learning orientated students feel more strongly about:

- Relating course content and practice
- Being driven by personal development needs
- Constantly seeking the application of knowledge

Grade orientated students feel more strongly about:

- Knowing prescribed course material

Conclusions

Significant differences between learning orientation

- & current study behaviour $\chi^2=72.13$ d.o.f. = 2 $p=0.000000^{**}$ (less learning orientated)
- & ideal study behaviour $\chi^2 = 82,43$ d.o.f. = 2 $p = 0.000000^{**}$

No difference current & ideal study behaviour

- $\chi^2=0.24$ d.o.f. = 2 $p = 0.883810$

The researchers discovered significant differences between response distributions of current orientation towards studies and current study behaviour (degrees of freedom = 9, $p = 0,005658$). This implies that students' study behaviour is incongruent with what they believe their study behaviour should be. One can therefore expect that students may feel uncomfortable in the way they understand and manage their own personalised learning approach.

No significant differences occurred between response distributions of current study orientation and ideal study orientation (degrees of freedom = 9, $p = 0,517$), implying that students understand what study orientation is preferred. This raises the question of whether the educational framework may possibly institutionalise study behaviour that is contradictory to the learning belief orientation of students and the expectancies of the community. The contextualization of curricula is therefore an important aspect that needs to be addressed. This will enable students not only to uphold and perpetuate the ideologies of their higher education institutions, but also the relevance of their nation's cultural heritage and ensure that the education meets the expectations of society at large. The challenge is to determine what the right preparation is based on the country's particular situation. Several implications for practice emerge from the findings of this research. First, awareness of differing study preferences will help promote understanding of difficulties experienced by students possessing different learning orientations. Secondly, a question that needs to be addressed is whether the study orientations of students are similar or dissimilar to the preferences held by their lecturers, and thirdly, what the effect of lecturer preferences are on the study orientations of students. Discovering the impact of the latter on the study orientations of students may enable educators to adapt instructional methods to suit the needs of the society better. Lastly, understanding study orientations of students as described by the empirical results may create an opportunity for educators to ensure that an optimal learning environment is provided. Ras and Grundling (2002) believes that a learning orientation and thus a better equipped entrepreneur or employee can be facilitated if tertiary institutions create a learning culture that:

- Allows communities to express their real needs;
- Develops lecturer-student-community research partnerships;
- Stimulates learning within a broader context than just textbook learning; and
- Gives the community a partial say in evaluating the applicability of the learning that took place.

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