

**EXAMINING THE MEDIATING EFFECTS OF STUDY OUTCOMES  
ON STUDENT EXPERIENCE AND SATISFACTION**

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# **EXAMINING THE MEDIATING EFFECTS OF STUDY OUTCOMES ON STUDENT EXPERIENCE AND SATISFACTION**

## **ABSTRACT**

Global demand for higher education has been growing. Insight into study outcomes may hold the key to finding out what exactly students hope to take away from their university experience and how they may be satisfied. This paper's aim is to understand the mediating effects study outcomes have on student experience and satisfaction. Findings suggest study outcomes such as personal development and career opportunity mediate the relationships between student experience (image, teaching, learning, student services and technology) and student satisfaction.

## **INTRODUCTION**

Global demand for higher education has been growing by 2.7% per year and is estimated to increase from 2.17 million in 2005 to 3.72 million in 2025, accounting for a phenomenal 70% growth over the 20 years (Bank, Olsen and Pearce, 2007). Growth in demand is attributed to three factors. First, 1.1% annual global population growth (CIA World Factbook, 2006) results in higher global demand for places at universities (Duderstadt, 2000). Second, the workplace requires more sophisticated education from its workforce. Universities are expected to assist students in developing skills that enhance employment prospects (McIlveen and Pensiero, 2008). Lastly, higher education is seen as a key to quality of life since education can increase personal economic well-being (Duderstadt, 2000). Several factors present as challenges. First, competition for the student dollar has increased with growth in global demand for higher education (Mavondo, Tsarenko and Gabbott, 2004). Second, universities have increasingly become self-funding as government support becomes more limited (Brown and Mazzarol, 2008). Today, universities are more akin to profit-making organisations that are market-driven and customer-focused (Clemes, Gan and Kao, 2007), giving the student voice more power than ever before.

Extensive literature identifies university attributes that contribute toward student experience (e.g. Mavondo, Tsarenko and Gabbott, 2004) and student satisfaction with their university (e.g. Elliott and Healy, 2001). However, research on study outcomes and their impact on student satisfaction remains limited (e.g. Clemes, Gan and Kao, 2007). Insight into study outcomes may hold the key to finding out what exactly students hope to take away from their university experience and how they may be satisfied. In addressing these issues, universities may have better opportunities for attracting prospective students. The aim of this study is to understand the implications that study outcomes have on student experience and satisfaction with their current university.

## **LITERATURE REVIEW**

Any service encounter has the potential to enhance overall satisfaction (Athiyaman, 2001). In an educational context, a service encounter involves student experiences with a university's image, teaching, learning, student services, facilities and

technology (Mavondo, Tsarenko and Gabbott, 2004). These six factors are considered to be antecedents of study outcomes.

Image is an overall impression which consumers have of an organisation (Alves and Raposo, 2010). Students go through various experiences and promotional information that they receive from a university to draw personal and emotional impressions of the university (Kuo and Ye, 2009). While image is often the first criteria for assessing a university (Kotler and Foz, 1995), how does this key factor impact on study outcomes and subsequent student satisfaction?

Teaching is a core service of the educational institution and is considered an institution's capability (Athiyaman, 2001). Since for students, the quality of teaching is part of the quality of their education (Hill, Lomas and MacGregor, 2003), teaching is central to their satisfaction (Clemes, Gan and Kao, 2007). Teaching attributes include teaching skill, approachability, knowledge, responsiveness (Hill, Lomas and MacGregor, 2003), enthusiasm (Sander, Stevenson, King and Coates, 2000) and trustworthiness (Morton-Cooper and Palmer, 1993).

Learning results in an enduring change in a person and consequently, how that person perceives the world and responds to it (Alexander, Schallert and Reynolds, 2009). Learning involves coproduction between students and academic staff (Mavondo, Tsarenko and Gabbott, 2004). Given the drive to achieve profits, universities are focusing on economies of scale by increasing class sizes. The increased student-staff ratio limits contact time with academic staff and for personalised feedback (Clemes, Gan and Kao, 2007). Whether limited face-to-face contact impacts on study outcomes and subsequent student satisfaction requires some investigation.

Student services provide support and address both academic and non-academic needs such as career guidance, counselling and financial assistance. Student services are important, particularly for international students who may require more assistance in order to adapt to new environments (Mavondo, Tsarenko and Gabbott, 2004). Galloway (1998) identifies staff's professional appearance, willingness to help and contact hours as crucial attributes in shaping student satisfaction with the quality of their university.

Facilities are physical evidence that add value to the student experience (Paswan and Ganesh, 2009). The library, self-study areas, classrooms, car parks, layout, food outlets, recreational amenities and health services are key criteria in influencing student satisfaction with their university (Douglas, Douglas and Barnes, 2006). It would be interesting to examine whether students have conscious expectations or simply take for granted the facilities that help to deliver their study outcomes.

Technology provides another service augmentation that embellishes the core services of teaching and learning, contributing to the student experience (Sinkovics, Haghirian and Yu, 2009). Classroom equipments, computers and online educational resources make data more accessible and transferable, increase interaction between academic staff and students and individualise learning (Mavondo, Tsarenko and Gabbott, 2004; Sinkovics, Haghirian and Yu, 2009).

Since study outcomes are goals that students set out to achieve from their education, students need to perform their roles effectively in order to achieve desired outcomes

(Telford and Masson, 2005). Students who are more involved in academic work, extra-curricular activities and interaction with staff achieve higher study outcomes (Astin, 1999). Three study outcomes which include academic development, personal development and career opportunities (McIlveen and Pensiero, 2008) are considered to be antecedents of student satisfaction.

Academic development is a result of the teaching and learning process (Clemes, Gan and Kao, 2007) where discipline-specific knowledge is acquired (Vermeulen and Schmidt, 2008). Academic qualitative outcomes are students' understanding and achievement of the aims of their study, while academic quantitative outcomes are reflected in assessment results (Lizzio, Wilson and Simons, 2002). Clemes, Gan and Kao (2007) observe that students rank academic development as the most important study outcome. It would be interesting to see if this finding is also a key criteria in an Australian context.

Personal development relates to the improvement of a student as a person (Clemes, Gan and Kao, 2007). This includes acquiring relevant skills for employability and lifelong learning (Lizzio, Wilson and Simons, 2002). While generic skills are best developed through formal learning environments, involvement in extra-curricular activities can also assist in developing communication, interpersonal and cognitive skills (Huang and Chang, 2004). Hill, Lomas and MacGregor (2003) note that students do not simply value academic outcomes but also attempt to broaden their horizontal knowledge skills by working as team players in a group. How crucial is this non-academic factor in contributing to student satisfaction in an Australian university?

Career development refers to a development of lifelong learning and employability (McIlveen and Pensiero, 2008). Career opportunities provide pathways and development of careers (Clemes, Gan and Kao, 2007). When addressing career development, students seek information about career opportunities and employability after graduation (Joseph and Joseph, 1997). How highly students rank career opportunity and how this factor correlates with the teaching and learning experience requires some exploration.

Finally, student satisfaction refers to an attitude that results from students' evaluation of the educational experience they receive from services provided by their university (Elliott and Healy, 2001). Satisfaction occurs at a particular time including after consumption, after choice or after accumulative experience (Mavondo, Tsarenko and Gabbott, 2004). This study examines whether student experience and study outcomes have direct or indirect effects on student satisfaction with their current university.

## PROPOSED MODEL: JUSTIFICATION AND HYPOTHESES

Students' experience with their university's image, teaching, learning, student services, facilities and technology (Mavondo, Tsarenko and Gabbott, 2004) are likely to have direct and positive relationships with study outcomes such as academic development, personal development and career opportunity (Clemes, Gan and Kao, 2007). Subsequently, it is likely these study outcomes will positively affect student satisfaction with their university (Lizzio, Wilson and Simons, 2002). On the other

hand, it is also possible that study outcomes will moderate the student experience–student satisfaction relationship. Thus:

- H1 Academic development will mediate the influence between student experience and student satisfaction*
- H2 Personal development will mediate the influence between student experience and student satisfaction*
- H3 Career opportunity will mediate the influence between student experience and student satisfaction*

## METHODOLOGY

The research instrument constituted a 15-minute self-administered pen and paper survey to a convenience sample of students at a major university in Western Australia. The survey was distributed at classes where prior approval had been granted and on campus in public areas such as the library, cafeteria and computer labs. The survey’s items were adapted from existing scales by Clemes, Gan and Kao (2007), Paswan and Ganesh (2009) and Russell (2005) for their reliability and relevance to the context. Fifty one items measured the six factors representing student experience, 23 items, the three factors representing study outcomes and six items, measured student satisfaction.

## RESULTS

In total, 400 completed surveys were collected. There was an equal distribution of males (46%) and females (53%) as well as local and international students. The majority was single and between 20 to 29 years, representing 62.5% of local students and 89% of international students. Independent groups t-tests suggested local students had significantly higher positive experience with their university’s image and more overall satisfaction with their university ( $p \leq 0.01$ ). On the other hand, international students had significantly higher positive experience with their university’s student services, facilities and opportunities for personal development ( $p \leq 0.01$ ).

Exploratory factor analysis using a VARIMAX rotation examined the dimensionality of the survey’s 80 items. The final solution, which explained 64% of the variance, identified clear factor structures for all six dimensions of the student experience (i.e. image, teaching, learning, student services, facilities and technology). However, only two of the three dimensions for study outcomes were identified (i.e. personal development and career opportunity). Since academic development had some multicollinearity with career opportunity, another study outcome, this meant that the construct could not be investigated further and H1 was not tested. Cronbach Alpha for all factors was above 0.70, suggesting reliability (Hair, Babin and Anderson, 2010).

**Table 1: Mediating effects of study outcomes on student experience and student satisfaction**

Hypothesis	Mediated Relationship	Test Statistic	p-value	Hypothesised Relationship
H2a	Image-Personal Development-Satisfaction	3.95	0.001	Partial mediation
H2b	Teaching-Personal Development-Satisfaction	3.77	0.001	Partial mediation
H2c	Learning-Personal Development-Satisfaction	4.14	0.001	Partial mediation

H2d	Student Services-Personal Development-Satisfaction	4.38	0.001	Partial mediation
H2e	Facilities-Personal Development-Satisfaction			Not supported
H2f	Technology-Personal Development-Satisfaction	4.10	0.001	Partial mediation
H3a	Image-Career Opportunity-Satisfaction	5.17	ns	Full mediation
H3b	Teaching-Career Opportunity-Satisfaction	5.30	ns	Full mediation
H3c	Learning-Career Opportunity-Satisfaction	5.13	ns	Full mediation
H3d	Student Services-Career Opportunity-Satisfaction	5.41	ns	Full mediation
H3e	Facilities-Career Opportunity-Satisfaction			Not supported
H3f	Technology-Career Opportunity-Satisfaction	5.17	ns	Full mediation

Multiple regression analysis, supported by the Sobel Test, examined the mediating effects personal development and career opportunity had on each of the six respective student experience-student satisfaction relationships. As can be seen in Table 1, personal development partially mediated the relationships between image, teaching, learning, student services and technology with student satisfaction, supporting H2. On the other hand, career opportunity fully mediated the relationships between image, teaching, learning, student services and technology with student satisfaction, supporting H3. No mediating effects were observed for the relationship between facilities and student satisfaction since facilities had no initial significant and direct effect on satisfaction.

### Discussion, Limitations and Conclusions

Given the high global demand for education, aggressive competition between host countries/ universities and limited government funding, universities are increasingly operating as profit-making organisations where the customer (student) voice needs to be heard. From the findings supporting H2 and H3, it is clear that study outcomes play a crucial role in bridging the gap between what universities can provide (image, teaching, learning, student services and technology) and what keeps students satisfied. In an age where information is easily accessible, acquired knowledge may not be sufficient in giving graduating students a competitive edge in the workplace. Thus, graduating students may be actively looking to develop personal attributes and skills that can give them some differentiation in the workplace. This implies that universities should be looking at creating more environments and activities such as Glee Clubs that encourage skills involving social interaction, problem-solving, leadership, initiative and teamwork. The findings also suggest that students pursue a university education for the career opportunity it presents. It would be in the best interest of universities to cultivate and build networks with their alumni and relevant industry bodies that can open doors to careers for graduating students.

Sampling was a key limitation of the current study. The sample was drawn from one university in Western Australia. It is possible that students in Perth may face unique factors specific to their location (e.g. climate, location and public transportation), impacting on the generalisability of the findings. Another limitation was the inability of the study to explore academic development since there was some multicollinearity with career opportunity. While this did not further hypothesis-testing of the construct, IT suggests that academic development may be more closely linked with career opportunity than first envisaged. Educators may be well advised to review their

academic curriculum to include client-focused projects that cultivate networking and enhance career advancement opportunities.

Future directions of the research area need to take into consideration students' perceived risk associated with achieving study outcomes and satisfaction. Six types of perceived risk are identified in the literature, which include financial, performance, psychological, social, physical and convenience risk (Mieres, Martin and Gutierrez, 2006). Research that explores how the six risk types impact on study outcomes, student satisfaction and university choice is required. While the current study explores differences between local and international students, subsequent cross-cultural studies that examine student comparisons based on different geographics and psychographics could help to further research in the area.



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