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'HOW CAN WE HELP?' THE CONTRIBUTION OF UNIVERSITY LIBRARIES TO STUDENT RETENTION

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The Australian Government's Higher Education Participation and Partnerships Program aims to encourage greater participation of students from low socioeconomic backgrounds in higher education. Historically, participation and retention rates of students from under-represented groups have been less than for the majority of school leavers. Universities are now intensifying their efforts to improve retention, and expect all parts of their institutions, including the university library, to contribute. Through a review of conceptual and empirical literature, this paper identifies five potential means by which a library may contribute to student retention and concludes by outlining one library's approach to investigating its contribution.

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INTRODUCTION

Scrolling through the day's calendar University Librarian, 'Carla Johnson', notes that she has a mid-morning meeting with the Director of Student Equity. On their agenda for this meeting is a discussion about the Australian Government's Higher Education Participation and Partnerships Program (HEPPP) from which money is available for university initiatives to encourage participation. The HEPPP funds were announced as part of package of measures aimed at reaching the Government's target; that by 2020 students of low socioeconomic status (SES) backgrounds will comprise 20 per cent of undergraduate enrolments (Commonwealth of Australia, 2009). The Student Equity unit have already suggested that the library conduct a project under the HEPPP guidelines to investigate the barriers to information access faced by off-campus enrolled students at the university.

Carla's gaze moves to her much read copy of the 'Bradley Review' in which a further target was recommended; that by 2020 at least

40 per cent of 25-34 year olds have at least a bachelor's degree (Bradley, Noonan, Nugent & Scales, 2008). She fully appreciates the challenge: to achieve both participation goals and graduation goals, Australian universities will have to find ways of better supporting and retaining students. Carla is well aware of the statistics on retention which indicate that eligible students from low SES backgrounds receive lower rates of offers for an undergraduate place at university, have higher rates of deferral and lower rates of retention (DEEWR, 2010). Similarly, due to the connections between SES status, geographic location and enrolment mode, students from regional and remote locations and those who enrol off-campus (i.e., by distance education) appear to have lower rates of retention than average (Parliament of Victoria, 2009). As her university has a large off-campus cohort, Carla knows that addressing the retention of these students should contribute also to efforts to improve the retention of students of low SES backgrounds.

Carla continues to contemplate the problem of retention. Surely there are complex reasons for non-retention? Sometimes students make the wrong course choice. Sometimes they defer for personal reasons. There must be many different drivers of retention, with only some in the control of the university, and fewer still that can be influenced by a university library.

Her musings are interrupted by a phone call from the Vice-Chancellor's office. An upcoming University Review requires the library to submit a 'Library Self Study'. The first draft has been prepared but the VC now wants all divisional reports to include specific reference to the division's contributions to the University's participation and retention rates for students of low SES background.

Later Carla's attention is drawn to a 'pdf' on her iPad of a 2010 report from the Association of College and Research Librarians (ACRL). It outlines a research agenda aimed at demonstrating how libraries can establish their contribution to retention and other student outcomes through the collection of institutional and library use data. She is aware of other university libraries investing in information systems to allow them to collect 'library use' data. Is this where the library should be devoting its attention and resources?

In light of the different information sources and advice, Carla concludes that any attempt to investigate the impact of libraries on student outcomes must be fully informed by a robust understanding of how a library may best contribute to improved rates of retention. She decides on her first step: to commission a literature review that covers recent papers and reports about meanings, theories and models of retention and a library's role in retention. Carla also decides that the review should include an examination of the findings of empirical papers that have adopted the approaches advocated by the ACRL.

The literature review begins....

RETENTION – MEANINGS, THEORIES AND DRIVERS

Retention is complex: the meaning of retention may differ for students and institutions. When a student withdraws they are recorded as a loss in a university's retention statistics. This occurs regardless of the student's next step. However, a student may be 'taking a break' to earn the finances required to continue studying (Breier, 2010) and planning to complete at a later point (Christie et al., 2004; McInnis et al., 2000). Alternatively, students may withdraw before completion because they have achieved their personal goals already (McInnis et al., 2000). Irrespective of how students see their own withdrawal decisions, institutions face substantial negative consequences arising from low retention (including for their finances, planning and reputations). Their mission is to successfully graduate students. Consequently, theories of student retention commonly focus on what institutions need to do to maximise student retention.

An influential model for understanding student retention is Tinto's (1993) social interaction model, which theorises retention as being influenced by a student's sense of connection to an institution. Retention is viewed in the model as a longitudinal process during which positive experiences of integration, both academic and social, reinforce the student's commitment while negative experiences weaken commitment (Tinto, 1993). The model also recognises that students bring with them various attributes (e.g., demographic, values, motivation, resources and prior educational attainment) that influence their integration with the institution (Tinto, 1993).

More recent 'multicultural' theories challenge the assumption implied in Tinto's model that students need to integrate with the institution. Rather, multicultural theories emphasise the changes that should occur to universities so that they reflect and encompass the many cultures and social backgrounds of their students (Maldonado, Rhoads & Buenavista, 2005; Zepke & Leach, 2005). Some students may be alienated by a university's embedded values, language, or practices (Gilardi & Guglielmetti, 2011), feel that their tacit knowledge and practices are undervalued by the university (Thomas, 2002), or lack the familiarity and proficiency with academic culture, practices and conventions that are important to success in higher education (Collier & Morgan, 2008). This may be particularly true for those students who are the first in their family to attend university. Therefore, a multicultural perspective is important for understanding the issue of retention for traditionally underrepresented groups in higher education.

In summary, the different perspectives and theories of retention suggest that both students and institutions may need to adapt and that personal, situational and institutional factors may impact on institutional retention rates. Personal and situational factors may include academic ability and preparedness, family background, aspirations, study habits, college expectations, work status, place of residence, gender, marital status, ethnicity and financial situation (Aird, Miller, van Megan & Buys, 2010; Breier, 2010; Christie et al.,

2004; Woodley, 2004). Institutional factors include the age and selectivity of the institution, teaching standards, subjects taught, student accommodation, facilities, assessment procedures, teaching and delivery methods, course structures, support services, values and cultural inclusiveness (Aird et al., 2010; Maldonado et al., 2005; Christie et al., 2004; Woodley, 2004).

In Tinto's (1993) model, personal and institutional factors either integrate and enhance the commitment of students or alienate and weaken their commitment. Students may regularly reassess their commitment to completing their university course in response to various push-pull factors (Clegg, Bradley & Smith, 2006). In some cases, particular events may arise that trigger students to actually make the decision to leave or defer their studies (Castles, 2004). For example, personal triggers may arise from opportunities (e.g., overseas travel or job offers), trauma (e.g., sickness, bereavement) or situational factors (e.g., unemployment or financial constraints) (Christie et al., 2004). Institutional triggers may include course availability, class schedules, or due dates for tuition fee payments, examinations or assignments (Simpson 2004; Breier 2010).

A student's withdrawal decision is unlikely to result from a single event or factor (Glogowska, Young & Lockyer, 2007). However, universities may be able to improve retention not only by working to enhance the general commitment of students to their studies and their institutions, but also by anticipating how particular administrative and academic events may trigger some students to leave.

The institutional role in retention – support provision

Institutions can influence retention by the support they provide students. This is evidenced by recent Australian Council for Educational Research (ACER) (2011) data about the experience of Australian undergraduate students that indicated those who reported feeling less supported by their institutions were more likely to express departure intentions before graduation than those who felt more than a medium level of support (39 and 21 per cent, respectively).

Support is important at all stages of the student cycle, including transition, during semester and post assessment periods (Nelson et al., 2012). An effective system of support will involve assisting students to feel comfortable with institutional behaviours; providing students with accurate enrolment advice and effective orientation and induction programs; assisting students form academic communities; promoting regular and meaningful contact between students and teachers in and out of the classroom; and supporting the quality of teaching (Zepke & Leach, 2005).

Critical to retention is the support that is provided in the form of good teaching - including curricula and assessments that challenge students to learn, and effective and timely feedback (ACER 2011). Support through good teaching is vital for students' positive experience of university (ACER 2011) and their persistence and success (Zepke & Leach, 2010; Kuh & Gonyea, 2003).

However, academic support is not just provided by discipline teachers: it involves a range of professional services including the library, English language support and peer mentoring schemes (Zepke & Leach, 2005). Further, while academic support may be central for students' persistence, students may also require support through various services including child care, pastoral care, financial aid, counselling, health, housing, employment and social clubs (Zepke & Leach, 2005).

Effective support is also proactive. As discussed previously, some events that trigger withdrawal occur in predictable patterns in a student's life cycle at university. This predictability suggests that universities can be proactive by anticipating students' support needs at critical points including fee payment times (Breier, 2010) or assignment submission and exam times (Nelson et al., 2012). Universities may also provide support reactively in 'retrieving' students who have disengaged with their academic program by not completing assignments (Simpson, 2004) or failing examinations (Nelson et al., 2012).

Proactive support is important because often the students who most need assistance do not seek it (Tones et al., 2009; Simpson, 2004). Non-use of support is widespread. The ACER reported that 30 per cent of students did not use a learning support service in 2010, and 10 per cent of first-year students did not seek any support from academic staff. Further, in their study, Christie et al. (2004) reported that only one-third of students sought advice before withdrawing.

There are complex reasons why students do not make use of institutional support. These reasons include lack of confidence, the desire to demonstrate self-coping skills and preference for non-institutional sources of support (Clegg et al., 2006; Carnwell, 2000). Thus effective support must cater for student diversity (Christie et al., 2004), be respectful of the learning students bring with them (Zepke & Leach, 2005) and allow for student agency and independence (Maldonado et al., 2005).

Can libraries influence retention?

University libraries are expected to contribute to retention and other student outcomes and demonstrate that they do so (ACRL, 2010). The literature reviewed suggests several key means by which libraries can contribute to retention. These means include:

- working in close partnership with teachers in the delivery of academic programs that help students commit to and engage with their academic studies;
- catering for diverse student groups in the conception and design of services;
- ensuring emerging technologies such as e-books do not disadvantage some groups;

- anticipating trigger points for withdrawal that can be influenced by the library; and
- working collaboratively with other support services to provide students with integrated support.

First, libraries can contribute by helping students to commit and engage academically (Tinto, 2003). To do so, students need access to appropriate information resources and library services. Further, students are more likely to use library resources and services when their academic programs are challenging (Kuh & Gonyea, 2003). Accordingly, libraries need to collaborate with discipline teachers to ensure students have both access to the resources and services they need and the literacy required to make effective use of them.

Several papers in the review provide examples of how libraries are forging new relationships with faculties and teachers to provide integrated and targeted support (Lillard, Norwood, Wise, Brooks & Kitts, 2009). One method of collaboration is to embed library support within units of study, particularly through learning management systems (Dale & Cheshir, 2009; Lillard et al., 2009). There are time and staffing costs involved in this close library-academic cooperation (Hoffman, 2011) and these costs may lead to some resistance from both academic and library staff (Lillard et al., 2009). However, the embedding of library support within units or courses allows for more targeted and integrated support for students.

A second means by which libraries can contribute to retention is by specifically recognising and catering for diverse student groups. Retention rates in Australia are lower for some traditionally under-represented groups such as students from low SES backgrounds, off-campus and/or mature-aged undergraduates (DEEWR, 2011 & 2010). While there are many reasons behind non-completion, students from some underrepresented groups may come to university with perspectives, skills and resources that differ from the majority. For example, it has been speculated that distance education students have inadequate access to computers (Haddow & Joseph, 2010), differ from other students in their familiarity with computers (Renner, Vardaman & Norton, 2007), and face dispositional barriers and skill gaps in accessing information and resources (Brumfield, 2008).

Libraries need to be proactive in anticipating the different backgrounds and resource needs of students and ensuring that the prior experiences of students are valued and validated in the provision of library resources and services. However, as is the case for general support services, the literature reports a high incidence of non-use of library services. Again, proactive support may be required (Haddow & Joseph, 2010; Liu & Luo, 2011) to ensure those most in need of library services have the access they require.

Some non-use of library resources derives from differences between disciplines and the expectations of academic programs (Goodall & Pattern, 2011). Given that retention is influenced by good teaching and a curriculum that challenges students to learn (ACER, 2011),

libraries may need to be proactive in collaborating with teachers to develop curriculum that requires library use and incorporates information literacy skills (Beetham, McGill & Littlejohn, 2009).

Third, if libraries are to assist in retaining students they also need to be mindful of differences between students in their preferences and experiences of online and other technologies. For example, findings reported by Liu and Luo (2011) indicated that some participants found 'digital libraries' unfamiliar, uncomfortable or difficult to use for activities such as accessing course readings and materials, searching for and downloading items and reading online. Students struggled due to the lack of human help, poorly scanned text, slow download speeds and requirements to read onscreen (Liu & Luo, 2011).

Additional issues for student access surround the use of technologies such as mobile computing (Shen, 2011) and e-books (Guilen, 2010). Mobile access has implications for the design of library websites and learning spaces (Seeholzer & Salem, 2011), the types of services best accessed by this means and the 'readability' of information for students who wish to use these devices (Guilen, 2010). Importantly for retention, mobile access has the potential to provide useful services and reduce access barriers to students as they move between work, study and family responsibilities.

There are other issues for libraries and students related to the use of e-books including search time and costs (Shrimplin, Revelle, Hurst & Messner, 2011; Guilen, 2011) and ease of reading (Rowlands, Nicholas, Jamali & Huntington, 2007). Appleton and Baird (2004) investigated attitudes towards e-books of midwifery students studying by distance, some of whom had families. Among the disadvantages the students reported was the time it took to read e-books online. Reading time was a particular concern for students who were already time-poor and had to share one computer with other family members. The alternative of printing off some portion of an e-book was also seen negatively due to the financial costs incurred. Potentially, students who are already more at risk of withdrawing due to their financial or family circumstances may be triggered to actually withdraw if they believe that the technologies they need to use increase their costs of studying. With technologies evolving rapidly, university libraries need to ensure that at-risk students are not further disadvantaged by the increasing use of e-books and other technologies.

Fourth, libraries may play a role at potential trigger points for withdrawal that arise from a student's academic program or from their use of library resources and services. As discussed earlier in the paper, assignment submission times are predictable trigger points for some students to withdraw (Nelson et al., 2012). By working with teaching staff to ensure students have, for example, point-of-need access to resources and training, libraries may influence withdrawal decisions by students. For students who are already struggling, it may take little to trigger a withdrawal decision: the failure to receive a requested book in a timely fashion for an off-campus student; difficulties in navigating databases or locating full text articles critical

for an assignment; or the receipt of a notification about significant outstanding fines for overdue resources or borrowing encumbrances.

Finally, the quality of a library's collaborations with other institutional support areas may be influential in retention. As discussed, withdrawal decisions are unlikely to result from a single factor. Therefore, it is most unlikely that a single support service will be critical for student retention. Rather, retention may be enhanced if students are provided with integrated and seamless support through collaborations between a library and other university functions and services.

One means of achieving integrated support is through a learning commons. Accardi et al. (2012) provides a useful review of the literature covering the development of learning commons which blend traditional library services and resources with IT facilities and support, language skill units and other student services (Accardi et al., 2012). However, the concept of a learning commons does not easily transform into a model of integrated support for off-campus and online students. Despite the practice of libraries offering targeted information services for off-campus students (Oldham, 2008; Renner et al., 2007), there is little evidence in the literature that off-campus or online students are offered the equivalent of a learning commons as a means of improving their retention.

Do libraries influence retention?

The ACRL (2010) has argued that libraries should conduct more research using data about library use and resources to demonstrate their impact on important outcomes such as student retention and attainment. Accordingly, this section examines studies reported in the literature that have done so. Although some of these studies did not focus on retention, specifically, they are reviewed here because (a) they employed research methods similar to that advocated by the ACRL (2010) and (b) the variables they investigated along with library use – grade attainment or grade point average – are themselves, drivers of student retention (Nora, Barlow & Crisp, 2005). These seven studies are presented in chronological order in Table 1. Details are also provided about the method, context and the variables measured for each study.

As indicated in Table 1, four of the seven studies used data from a single institution while two drew on institutional data across institutions. One study (Kuh & Gonyea, 2003) used a survey to collect data. The studies using institutional data took one of two approaches: either the studies correlated what libraries *have* (e.g., numbers of staff, collections or awards, library rank, expenditures, amount of space) with student outcomes such as retention, or they correlate what students *use* from libraries as measured by, for example, number of book borrowings, number of log-ins to library databases, time spent online. Examples of the first type of studies in Table 1 are Emmons & Wilkinson (2011) and Mezick (2007); examples of the second include Cox & Jantti (2012), Goodall & Pattern (2011), Wong & Webb (2011) and Haddow & Joseph (2010). This second set includes examples of 'transactional' use as critiqued by Fleming-May (2011).

Table 1: Studies of a library's impact on retention and other outcomes

Authors and year	Context and method	Independent variables	Dependent/outcome variables
Kuh & Gonyea (2003)	US, cross sectional survey	library experiences	perceptions of gains in information literacy, overall gains from college, satisfaction with college experience
Mezick (2007)	US, cross sectional	total library expenditures, expenditures on materials, monographs, serials, professional salaries	retention (annual)
Haddow & Joseph (2010)	Australia, single institution	items borrowed, number of library PC logins, catalogue logins, logins to databases, meta search tools and reserve	retention at mid and end semester
Emmons & Wilkinson (2011)	US, cross sectional survey	Library staff-student ratio, collection (numbers and expenditure), use (initial circulation), services (number of reference questions and students receiving instruction)	retention and graduation rate
Goodall & Pattern (2011)	UK, single institution	number of book loans, library visits and logins to e-reserve	grade attainment
Wong & Webb (2011)	Hong Kong, single institution	number of book or AV loans of student	grade point average at graduation
Cox & Janitti (2012)	Australia, single institution	items borrowed, time spent online by student	weighted average mark

Six of these studies sought to correlate student outcomes such as retention or attainment with the resources of a library (e.g., Mezick, 2007) or the number of transactions that students have with a library (e.g. Emmons & Wilkinson, 2011). These studies reported a positive relationship between the student outcomes and the independent variables. However, as they used correlation analyses, these studies did not demonstrate that libraries directly influence retention and related outcomes.

By contrast, Kuh & Gonyea (2003) used regression analyses to investigate whether library use by students influenced their perceive gains, satisfaction and experience of university. Kuh & Gonyea (2003) found that, after controlling for variables such as the academic challenge of different units that drives library use in the first place, library experiences did not have a substantial influence on any of the independent variables. Rather than the amount of resources or library use influencing student outcomes such as retention, both Emmons & Wilkinson (2011) and Kuh & Gonyea (2003) noted that resource amounts and student use are likely to co-vary with other factors such as elite institutional status, entry standards, financial resources and general levels of support. In concluding, Kuh & Gonyea (2003) argued that it is the challenge of a student's academic program that drives use of the library rather than the existence of the library resources per se. A similar conclusion may be drawn from those studies examining library use: It is the challenge and requirements of a student's academic program that drive students to use the library.

The ACRL (2010) has called for more 'correlation' studies and for the collection of more types of institutional and library use data, but correlation studies cannot demonstrate that a library has a direct impact on retention and other outcomes. Further, Fleming-May (2011) has argued that there are considerable problems in defining and collecting library use data. Rather than being influenced by library inputs or the amount of student use, improvements in persistence and retention are more likely to result from the challenge of a student's academic program and the "complex interrelationships between these factors and the professional library staff and the students and faculty" (Emmons & Wilkinson, 2011: 146).

INVESTIGATING LIBRARY IMPACT – FUTURE DIRECTIONS FOR RESEARCH

Scrolling through her emails four weeks later, Carla Johnson finds the completed literature review returned to her for comment.

Carla notes that the review identified several potential means by which libraries may influence retention and other outcomes. These means include working in close partnership with teachers, catering for diverse student groups, ensuring emerging technologies do not disadvantage some groups, anticipating trigger points for withdrawal and working collaboratively with other support services.

The conclusions held no real surprises for Carla. However, she was struck that the existing empirical studies cannot demonstrate that a library has a direct impact on student outcomes. Was there some incongruence between the complex factors and relationships which influenced retention and the forms of research and data collection encouraged by the ACRL? At this point, Carla decided to circulate the review to her team of library managers for discussion at their next scheduled meeting.

In the ensuing weeks she received several informal comments about the findings of the review:

We've tried collaboration with academics in the past with varying degrees of success. This review gives us a stronger rationale for pushing for deeper collaborations. The HEPPP funds could be used to drive an initiative in a course where there is a high percentage of students from low SES backgrounds. (Stavros, Manager Teaching and Learning)

While our satisfaction survey results are always high, perhaps we need to dig deeper. Maybe the very students we need to reach most are not using our services. I guess, too, satisfaction results only reflect the views of students who have stayed to the end of the semester. What about those who have withdrawn? (Adriana, Deputy University Librarian)

We already provide a lot of targeted support to off-campus students and have lots of online tutorial and other resources for students. I'm not sure that our resources can be stretched any further. (Pablo, Manager Library Off-campus Services)

I've seen a recent jump in the number of students seeking help over the use of e-books. Perhaps we need to verify how significant an issue this is and how our off-campus and low SES students are affected. (Matilde, Manager Frontline Outreach Services)

This idea of 'trigger points' got me thinking. We have largely reduced the kinds of triggers and barriers that the review refers to but we need to find out if there are other things that students perceive as barriers or that trigger them to drop-out. (Lynne, Manager Innovation and Communication)

I still think there is value in collecting 'use' data even though it can't tell us how students use resources. Maybe we need to collect data at the subject and course level, too, through the learning management system (LMS). Depending on the thrust of the project we agree to, we could also try and get progressive

and summative performance data at the subject level. (Jolanta, Manager Quality Assurance)

It will be difficult getting access to a unit. However, our liaison librarian with the School of Health & Wellbeing has productive relationships with some course leaders and has been active through the LMS in some units already. However, she has reported how time consuming this is. Perhaps it's time to more thoroughly test and evaluate the practicalities of these approaches. (Lim Kan, Manager Faculty Health Library)

"Whatever we do it needs to be scalable. We have to be realistic about what we can do." (Kathryn, Business Manager)

CONCLUSION

A priority for higher education in Australia is to increase participation rates across diverse student groups and to improve student outcomes, especially the retention rates of under-represented groups. To achieve this priority, the Australian Government has backed strategic projects with significant funds under the Higher Education Participation and Partnerships Program.

Improving retention requires united effort from all parts of a university. However, a university library faces a substantial challenge in demonstrating to its institution that it makes a unique contribution to retention. The review of the retention literature indicates some potential means by which libraries make a contribution, namely by:

- working in partnership with teachers and students directly, for example through embedded librarian services that help students to commit to and engage with their academic studies ;
- specifically recognising and catering for at risk groups in the way library resources and services are conceived and provided;
- ensuring that the technologies used to provide resources and support cater for the needs of all students;
- identifying, anticipating and responding to retention trigger points within the library's control to minimise the likelihood that students will give up and depart the institution; and
- working in partnership with support areas throughout the university to ensure integrated support to students at risk of non-completion.

These potential means of contribution suggest approaches that go beyond a focus on resource inputs or student transactions with a library.

Within Carla Johnson's University Library, progress towards making a contribution to retention continues:

- Carla met with her management team and a productive discussion ensued.
- The library's application for University HEPPP funds was successful. Based on the literature review, a number of research questions were identified and a two-stage research plan was developed.
- Stage 1 of the project involved an investigation, through largely qualitative methods, of the experiences of off-campus students in using the library. Students were recruited, voluntarily, from a list of all those students enrolled in three undergraduate courses. Criteria for selecting these courses were that each had (1) a high proportion of students from low SES backgrounds, (2) a high-proportion enrolled in off-campus, and (3) historically lower rates of progress and completion than the university average. The research questions to be addressed through these interviews were derived from the findings of the literature review. They were designed to probe the particular experience of low SES students and were conducted in a manner sensitive to the privacy and situation of the respondents.
- Findings of Stage 1 will be used to inform the development and evaluation of initiatives for Stage 2. The literature review indicated that the library's contribution to retention derives mainly from its use by students in the context of particular courses and assessment requirements. Therefore, it is anticipated that the Stage 2 may involve working in collaboration with a course leader within a particular unit of study (and, potentially, with other support areas within the university) to enhance the students' experiences of the library and their information access. Should Stage 2 develop as planned then the data collected for evaluation purposes would include: pre-and post-survey data from students about their knowledge and use of library resources, interview data from the librarian liaison and teaching staff involved, and data about student engagement, unit performance and retention in the unit.

Carla also approves the dissemination plan for the key findings of the project. She is committed to supporting student outcomes at her University and in Australian universities more broadly.

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REFERENCES

- Aird, R., Miller, E., van Megen, K. & L. Buys. 2010. *Issues for students navigating alternative pathways to higher education: Barriers, access and equity*, Griffith University.
- Appleton L. & H. Baird. 2004. The use of electronic books in midwifery education: the student perspective. *Health Information and Libraries Journal*. 21(4): 234-252.
- Accardi, M. T., Cordova, M. & K. Leeder. 2012. Reviewing the library learning commons: History, models, and perspectives. *College & Undergraduate Libraries*. 17(2/3):310-329.
- Association of College and Research Libraries (ACRL) 2010. Value of academic libraries: a Comprehensive Research Review and Report: Chicago: Association of College and Research Libraries. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/value/val_report.pdf.
- Australian Council for Educational Research (ACER). 2011. Dropout DNA, and the genetics of effective support. *Research Briefing*. v11 June.
- Beetham, H., McGill, L. & A. Littlejohn. 2009. *Thriving in the 21st century, Learning Literacies for the Digital Age (LLiDAProject)*. <http://www.jisc.ac.uk/media/documents/projects/llidareportjune2009.pdf>
- Bradley, D., Noonan, P., Nugent, H. & Scales, B. 2008. *Review of Australian Higher Education. Final Report*. December. http://www.deewr.gov.au/HigherEducation/Review/Documents/PDF/Higher%20Education%20Review_one%20document_02.pdf
- Breier, M. 2010. From 'financial considerations' to 'poverty': towards a reconceptualisation of the role of finances in higher education drop out'. *Higher Education*. 60(6): 657-670.
- Brumfield, E.J. 2008. Using online tutorials to reduce uncertainty in information seeking behaviour. *Journal of Library Administration*. 48(3/4): 365-377.
- Carnwell, R. 2000. Approaches to study and their impact on the need for support and guidance in distance learning. *Open Learning*. 15(2): 123-140.
- Castles, J. 2004. Persistence and the Adult learner: factors affecting persistence in open university students. *Active Learning in Higher Education*. 5(2): 166-179.
- Christie, H., Munro, M. & T. Fisher. 2004. Leaving university early: exploring the differences between continuing and non-continuing students. *Studies in Higher Education*. 9(5): 617-636.

Clegg, S., Bradley, S. & K. Smith. 2006. 'I've had to swallow my pride' help seeking and self-esteem. *Higher Education Research & Development*. 25(2): 101-113.

Collier, P.J. & D.L. Morgan. 2008. "Is that paper really due today?": Differences in first-generation and traditional college students' understandings of faculty expectations. *Higher Education*. 55 (4):425-446.

Commonwealth of Australia. 2009. Transforming Australia's Higher Education System. <http://www.deewr.gov.au/HigherEducation/Documents/TransformingAusHigherED.pdf>

Cox, B. & M. Jantti. 2012. Capturing business intelligence required for targeted marketing, demonstrating value and driving process improvement. <http://ro.uow.edu.au/asdpapers/242>

Dale, P.& K. Cheshir. 2009. Collaboration between librarians and learning technologists to enhance the learning of health sciences students. *New Review of Academic Librarianship*. 15(2):203-216.

Department of Education, Employment and Workplace Relations (DEEWR). 2011. *Appendix 5.5: Equity - Retention Rates by State and Table A Higher Education Provider, 2003 to 2007*. <http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/Appendix5.aspx>

Department of Education, Employment and Workplace Relations (DEEWR). 2010. Undergraduate Applications, Offers and Acceptances 2010. <http://www.deewr.gov.au/HigherEducation/Publications/HEReports/Documents/UndergradAppsOffersAccept2010.pdf>.

Emmons, M. & F.C. Wilkinson. 2011. The academic library impact on student persistence, *College and Research Libraries*. 72(2):128-149.

Fleming-May, R. A. 2011. What is library use? Facets of the concept and a typology of its application in the literature of library and information sciences. *The Library Quarterly*. 81(3):297-320.

Gilardi, S. & C. Guglielmetti. 2011. University life of non-traditional students: engagement styles and impact on attrition. *The Journal of Higher Education*. 82(1): 33-53.

Glogowska, M., Young, P. & L. Lockyer. 2007. Should I go or should I stay? A study of factors influencing students' decisions on early leaving. *Active Learning in Higher Education*. 8(1):63-77.

Goodall, D. & D. Pattern. 2011. Academic library non/low use and undergraduate achievement. *Library Management*. 32(3): 159-170.

Guilen, N. 2010. Handheld E-Book readers and scholarship: report and reader Survey. *The Reference Librarian*. 52(1/2): 178-80.

- Haddow, G. & J. Joseph. 2010. Loans, logins, and lasting the course: Academic library use and student retention. *Australian Academic & Research Libraries*. 41(4): 233-244.
- Hoffman, S. 2011. Embedded academic librarian experiences in online courses. *Library Management*. 32(6/7): 444-456.
- Kuh, G.D. & R.M. Gonyea. 2003. The role of the academic library in promoting student engagement in learning. *College and Research Library*. 64(4):256-282.
- Lillard, L. L., Norwood, S., Wise, K., Brooks, J. & R. Kitts. 2009. Embedded Librarians: MLS Students as Apprentice Librarians in Online Courses. *Journal of Library Administration*. 49(1): 11-22.
- Liu, Z & L. Luo. 2011. A comparative study of digital library use: Factors, perceived influences and satisfaction. *The Journal of Academic Librarianship*. 37(3): 230-236.
- Maldonado, D. E. Z., Rhoads, R. & T.L. Buenavista. 2005. The student-initiated retention project: theoretical contributions and the role of self-empowerment. *American Educational Research Journal*. 42(4): 605-638.
- McInnis, C., Hartley, R., Polesel, J. & R. Teece. 2000. *Non-Completion in the Initial Experiences of Australian Undergraduates*. Melbourne Centre for the Study of Higher Education, University of Melbourne.
- Mezick, E.M. 2007. Return on investment: Libraries and student retention. *The Journal of Academic Librarianship*. 33(5):561-566.
- Nelson, K. J., Quinn, C., Marrington, A. & J.A. Clarke. 2012. Good practice for enhancing the engagement and success of commencing students. *Higher Education*. 63(1):83-96.
- Nora, A., Barlow, E. & Crisp, G. 2005. Student persistence and degree attainment beyond the first year in college. In *College Student Retention Success*. Ed. A. Seidman, (American Council on Education), chp 6.
- Oldham, B. 2008. Providing library services to distance education students. *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve*. 18(2): 219-227.
- Parliament of Victoria. Education and Training Committee. 2009. *Inquiry into geographic differences in the rate in which Victorian students participate in higher education*. http://www.parliament.vic.gov.au/images/stories/committees/etc/HE_Report/hepreliminaries.pdf
- Renner, B. R., Vardaman, A. S. & M.J. Norton. 2007. Best practices for medical libraries to deliver materials to distance learners. *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve*. 17(3): 85-97.

- Rowlands, I., Nicholas, D., Jamali, H. R. & P. Huntington. 2007. *What do faculty and students really think about e-books?* <http://www.ucl.ac.uk/infostudies/ian-rowlands/ir-publications/>
- Seeholzer, J. & J. A. Salem. 2011. Library on the go: A focus group study of the mobile web and the academic library. *College & Research Libraries*. 72(1): 9-20.
- Shen, J. 2010. The E-Book lifestyle: An academic library perspective, *The Reference Librarian*, 52(1/2): 181-189.
- Shrimplin, A.K., Reville, A., Hurst, S. & K. Messner. 2011. Contradictions and consensus – clusters of opinions on E-books. *College & Research Libraries*. 72(2)181-192.
- Simpson, O. 2004. The impact on retention of interventions to support distance learning students, *Open Learning*. 19(1): 79-95.
- Thomas, L. 2002. Student retention in higher education: the role of institutional habitus. *Journal of Educational Policy*. 17(4): 423-442.
- Tinto, V. 1993. *Leaving college: Rethinking the causes and cures of student attrition*, 2nd Ed. Chicago: University of Chicago Press.
- Tones, M., Fraser, J., Elder, R., & K.M. White. 2009. Supporting mature-aged students from a low socioeconomic background. *Higher Education*. 59(4): 505-529.
- Wong, S.H.R. & T.D. Webb. 2011. Uncovering meaningful correlation between student academic performance and library material usage. *College & Research Libraries*. 72(4) 361-370.
- Woodley, A. 2004. Conceptualising student dropout in part-time distance education: pathologizing the normal? *Open Learning*. 19(1): 48-63.
- Zepke, N. & L. Leach. 2010. Beyond hard outcomes: 'soft' outcomes and engagement as student success. *Teaching in Higher Education*. 15(6): 661-673.
- Zepke, N. & L. Leach. 2005. Integration and adaptation: Approaches to the student retention and achievement puzzle. *Active Learning in Higher Education*. 6(1): 46-59.

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