

Information Literacy at Tertiary Level of Education

Runita Marwah

Information skills and academic IT skills are imperative to higher education but ignored by most pre-degree preparatory General Foundation Programmes (GFPs) in Oman. Therefore, a need of introducing, designing and implementing such a module was identified pertaining to the requirements and the importance of the information skills in this Digital Era, where students rely mostly of electronic information resources for academic researches, assignments and acquiring knowledge. After the successful implementation of the module at one of the most prestigious academic organisation in Oman, a post implementation Action Research was conducted to determine the efficacy of the module and to establish the requirement of integrating information skills in the curriculum in order to equip students with the necessary academic information skills to cope up with the pace and demands of the present information age.

The main objective was to focus on the importance of information literacy in higher education and assess the efficacy of the implemented module through an active post implementation action research with the intention of improving the quality of the programme delivered at institutional level and to present the recommendations supported by the research outcomes to Oman Academic Accreditation Authority for incorporating the projection in their prescribed standards for GFPs in Oman. This will be perceived and presented as an initiative towards the up gradation of nationwide academic standards in terms of current information skills requirements in Higher Education.

The data (N=232) was collected through a carefully devised comprehensive questionnaire, keeping the identified research variables in mind and was further validated through the reliability tests. Later, the data was carefully analysed and interpreted through suitable statistical analysis to establish the hypothesis and plan a better future projection for learners as well as for educators and education providers.

Keywords: Information Skills, Digital Era, Information Age, Information Literacy, Higher Education, Skills acquisition, Learners and Educators, General Foundation Programme in Oman

1. Introduction

The term information literacy is a new buzz and essentially a core skill and a key attribute to be developed among the students in Higher Education (HE). The world is expanding in terms of information and the availability of these resources on information networks is vast. However, level of knowledge to deal academically and wisely with

Marwah

these resources among HE students is still daunting in various academic setups and geographical regions. With the intention of developing information literacy among the foundation students to enhance autonomy in terms of the practicing and implementing the key information skills in higher education, a module of information literacy was designed for the General Foundation Programme (GFP) students at the College of Banking and Financial Studies (CBFS) in Oman. The information skills module was integrated as part of the curriculum with the IT component of GFP, which primarily deals with the core IT skills required for higher education. The total duration of the module was sixteen hours, which was taught for eight consecutive weeks in two hours weekly sessions. Subsequently, the module was successfully delivered and under the supervision of the trained faculty members for two consecutive semesters. Later, as a part of the usual progression, the same set of students enrolled for the undergraduate and professional studies programme in the college. The study was conducted on these students after they completed the first two semesters of the programme they enrolled for. However, while collecting data, the students who directly enrolled for the undergraduate or professional studies programmes and did not go through the GFP, were excluded from the research.

The main objective of the research was to identify and to assess the efficacy of the information skills module, which was carefully devised and integrated with the IT component of the General Foundation Programme at CBFS in order to inculcate and develop information literacy among the students at foundation level of tertiary education.

The paper is organised as follows:

Section 1 provides a comprehensive Introduction; Section 3 focuses on a detailed Literature Review and Section 4 contains Methodology. Section 5 provides results through in-depth data analysis and Section 6 concludes the paper and define the limitations.

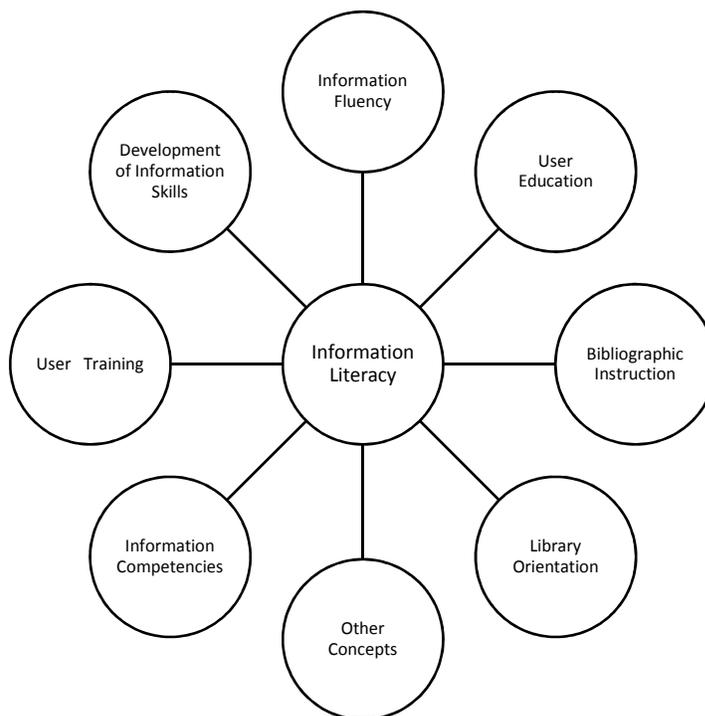
2. Literature Review

Information Technology Skills (IT) are imperative in order to achieve success in Higher Education (HE). However, it is also important to realise that Information Skills are a bit different from the core IT skills, as it is a much broader term and perceives HE around the culture of knowledge creation and independent learning. Together, Information Skills and IT skills forms a solid foundation for an information literate student and inculcate academic competence (SCONUL 1999). This especially become pertinent with the revolutionary era of online Internet based information resources, where information literacy becomes essential to sustain the awareness and accessibility to academic as well as right information. As stated by the National Association of Student Personnel Administrators, information literacy can only be observed through deep understanding of the ways in which the information is created and developed and how it is further managed and handled through multi-dimensional skill acquisition, active engagement and reflection (NAPSA 2004). Similarly, it is further suggested and supported by Hepworth (2017), who states that the main and foremost purpose of developing information literacy is to empower and equip students and individuals with the

Marwah

necessary skills to find and evaluate information suitable for academic purposes as per the academic conventions and norms, and it can be termed as academic information literacy. The concept of information literacy can be understood by the following conceptual illustration of information literacy by Lau and Jasus (2006).

Figure 1: The Concept of Information Literacy (Lau & Jasus 2006)

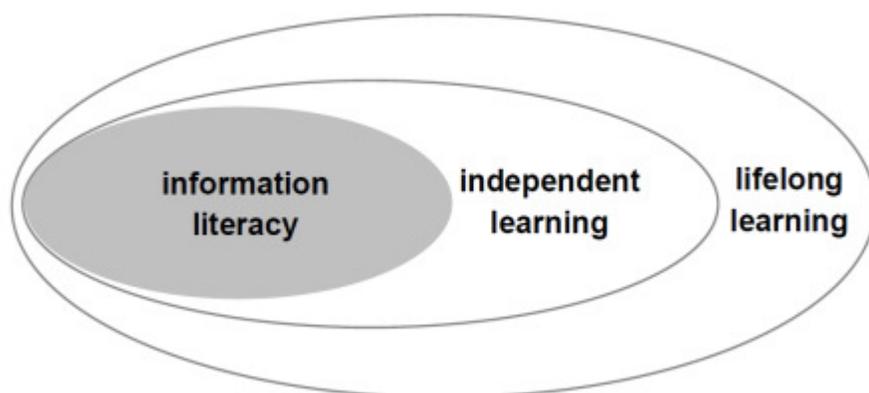


The American Library Association formed a Presidential Committee clearly states in their report that, 'information literate people are those who have learned how to learn' (ALA 1989). These are the individuals who have learned about the organisation of the knowledge and they know how to retrieve the information for learning purposes. Moreover, these are the people who believe in lifelong education and they can always manage, retrieve and assess the relevant information for decision making process at any point of time. Consequently, it can be realised that information literacy is not only limited to finding academic information resources but it encompasses various other domains such as recognising the problem and the need, effective academic usage of information and transferring the information for the relevant research analysis outcomes. Ojedokun and Lumade (2005) also argues in support by describing Information literacy broadly as locating, evaluating and managing information from various electronic information resources for decision making and problem solving purposes. Similarly, as per the Information literacy fact sheet (2000) provided by the California University, an information literate individual is defined as one who is capable of determining the extent of knowledge needed and access the same with efficiency to further evaluate to enrich the knowledge base or to accomplish specific task. In addition, most importantly, it has to be realised that one of the main objective of educational institutions is to develop lifelong learners with key graduate attributes such as critical

Marwah

thinking and independent learning by providing them with the foundation for continuous growth as a graduate and as members of community (Bund 2004). The relationship between Information Literacy and Lifelong learning can be perceived as follow.

Figure 2: Relationship of Information Literacy to Lifelong Learning (Bundy 2004)



An institutional model outlined by the Philadelphia University (2011) define the following attributes for an information literate student

- Identification of the need for the information
- Skills for identifying the locating the appropriate sources for the required information
- Skills for the effective usage of the information available in various formats
- The ability to critically analysis and evaluate the information
- Ethical usage of the information by keeping to the right side of the law
- Confidence in determining if the need is adequately met

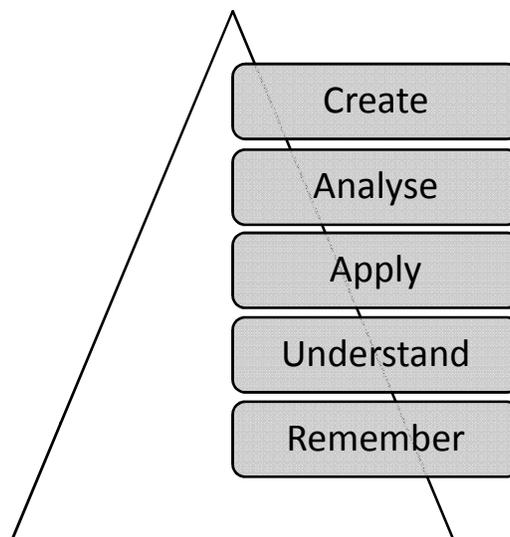
Eshet-Alkalai (2004) reported that at the same time where the digital availability of knowledge has opened new avenues for the students, the requirement of the skills development in terms of critical information evaluation becomes imperative. Similarly, according to ACRL (2000), Information literacy is of prime importance as simply the massive availability of information doesn't not make people informed. People need to learn and acquire the skills for the effective use of the available information. In addition, according to Webber and Johnston (2004), Identifying and gathering information can be challenging for undergraduate students at tertiary level of education as the information posted online does not necessarily has to go through any editorial checks or constrains, unlike print media. Moreover, many copyright and ethical issues for the ownership of the information also arise with the easy availability of information though internet.

One of the major impediment to achieving the objective of information skills is that the curriculum developers, trainers and learners fail to identify that the process of establishing and evaluating information becomes a non-linear process at higher levels and addresses to the phenomenon of metacognition (Hepworth and Wema 2006). The onus lies a lot on the educators to promote information literacy by embedding information skills in the academic curriculum, and by encouraging the application across

Marwah

the other modules. Subsequently, defining information literacy as a learning outcome for all academic programs at tertiary level of education (Gillespie and Brookes 2001). Likewise, it has also been reported by Rader and Hannelore (2002), that various higher education institutions are establishing mandates for the active involvement of the faculty members to impart information skills and collaborate with the librarians for integrating information literacy into general and disciplinary education. Moreover, Information literacy models can also be seen and analysed in the light and concepts of Bloom's Taxonomy, defining another paradigm where, the educators are to encourage and take the students to a deeper understanding of the skills from shallow surface learning. These models carve the way for the learners to achieve higher cognitive levels through structured metacognition parameters.

Figure 2: Bloom's Taxonomy (Modified by Anderson et al. 2001)



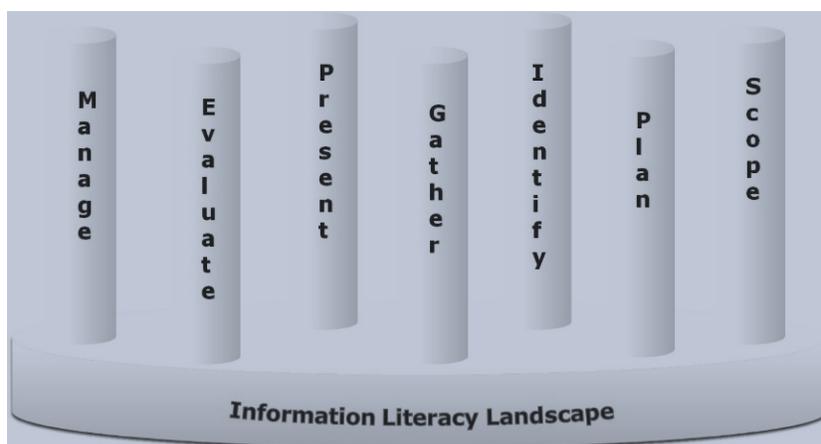
Taking the idea further, many information literacy models such as ANCIL and SCONUL seven Pillars model carried the concept of metacognition and incorporated the concept of the ability of being aware about one's own learning. Most future models perceived information literacy in the light of metacognitive concepts and defined information literacy as a process where continuous autonomous involvement of the learners was required through skills development and self-reflection.

As reported by Reinbold (2013), the first formal contemporary successful model, which was adopted widely for information literacy training was termed as ADDIE, which stands for "Analysis, Design, Development and Implementation". The model wasn't only used successfully for face-to-face learning but was also successfully used for the distance learning setups for developing skills in blended learning environments (Sumney and Valenti 2013). However, the success of the model depends largely on a well-designed and structured information literacy curriculum, which includes defined learning objectives, targets and integrated assessments.

Marwah

The model developed by Society of College, National and University Libraries (SCONUL) was rather considered as one of the most successful model, which was first developed in 1999 and termed as 'The Seven Pillars of Information Literacy'. However, in 2011, the model was revised addressing and incorporating new technologies and latest digital information platforms and since then the model is widely used by the librarians and trainers across the world (Information Literacy Group, 2017). The seven pillars of the model can be viewed differently through different lenses for different defined paradigms, such as, research, digital literacy, open education resources and evidence based practice (Ibid.). Later, a revised version was released through ongoing researches in 2015 and was adapted, researched and further developed by various universities and academic organisations in different explicit ways. For instance, University of Tasmania researched on mapping the graduate attributes against the Seven Pillars (University of Tasmania 2015), Ulster University developed theme cards which were based on the Seven Pillars (Ulster University 2017) and Birkbeck College developed a grid to map the Seven Pillars against different levels of experience and level of skills (Birkbeck College 2017).

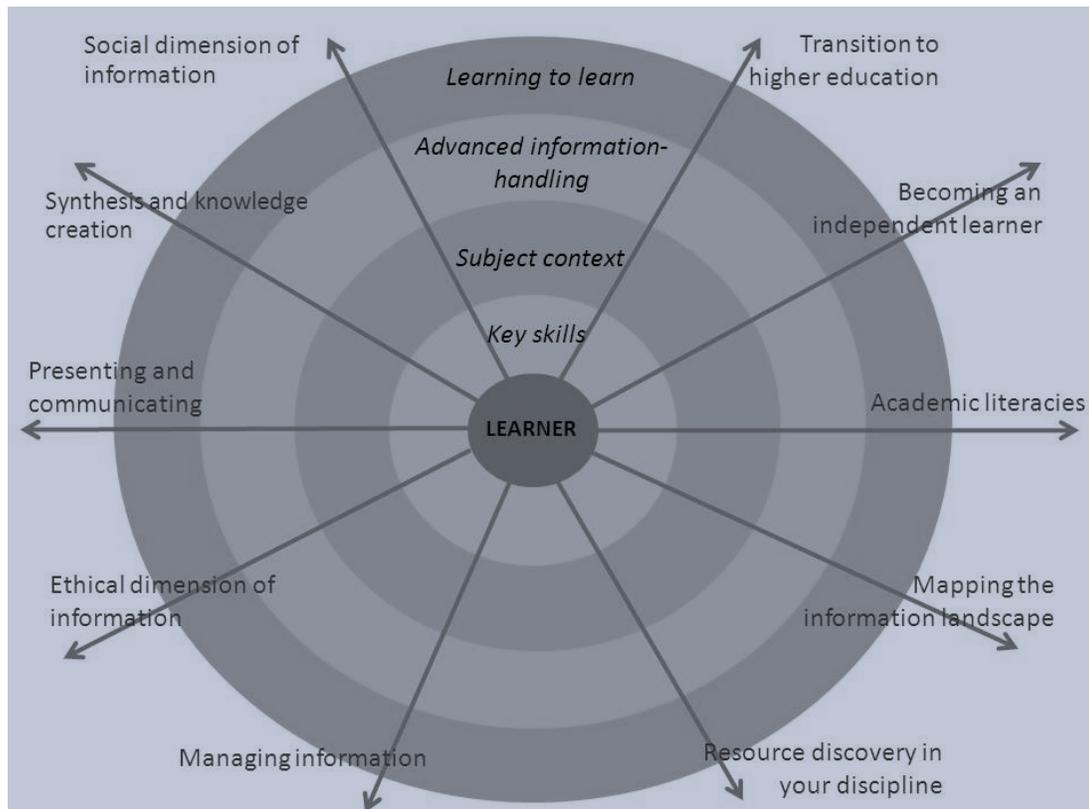
Figure 3: SCONUL 7 Pillars of Information Literacy (Goldstein 2015)



The model has been attracting the attention globally since its inception and the revised version 2011 has addressed to various skepticism that was associated with the previous versions of the model. The model adapted to the latest researches primarily with the positive approach towards the development of skills, behaviors and attitudes (Goldstein 2015).

Another model which was created by Coonan & Secker (2011) was termed as 'A New Curriculum for Information Literacy (ANCIL) is also popular among the trainers, learners and curriculum developers. The model serves to the requirements of 21st century higher education setup and addresses to a holistic view of information literacy through ten defined strands in much broader context. The curriculum envisioned an adaptable flexible approach towards making the model suitable to be implemented in any higher education setup for autonomous study and research (Ibid.)

Figure 4: ANCIL 10 aspects or 'strands' (Coonan & Secker 2011)



Subsequently, National Information Literacy Framework for Scotland and Welsh National Information Literacy Framework were introduced in 2009 and 2011 respectively and both models used SCONUL seven pillars as a reference for further development. These frameworks predominantly emphasised on an incremental approach towards developing the skills across all the levels of education and lifelong learning (Martin 2013)

Statement of hypothesis:

1. The integration of the information skills module with the IT component of GFP has significantly helped to develop information literacy among the students which eventually resulted in a remarkable increase in the confidence level of the students
2. The students have realised the importance of all major components of module and consequently admitted that the module has certainly helped them to perform better in Higher Education.

3. Methodology

The research is aimed at following:

Marwah

- Evaluating the efficacy of the Information Skills Module undertaken at the foundation level by undergraduate and professional studies students
- The impact of the skills taught on the level of confidence
- Usefulness of the various elements and components covered in the module
- Identification of any other support provided to the students for the development of information skills

Sample Size: 232 students

Sampling Technique: Simple Random Sampling was used for the study

Settings: Students of Undergraduate and Professional Studies students at CBFS

Inclusive Criteria: Students who have undertaken the information skills module in the GFP at CBFS

Exclusive Criteria: Students who are direct entries and did not take the information skills module in the GFP at CBFS

An evaluative research approach has been adopted in the study and the data was collected through a structured questionnaire, which was divided into two parts. The first part aimed at eliciting data about age, gender, programme of study and eventually confirming to the inclusive criteria of the research by asking if the respondent has gone through the GFP at CBFS or not. The second part aimed at eliciting the information to establish the mentioned hypothesis through various research questions. The reliability of the questionnaire was 90%, which was measured through split half method, subsequently confirming to the internal consistency of the questionnaire.

4. Data Analysis and Findings

For this research, 232 copies of the questionnaire were distributed among the respondents who were the students at undergraduate and professional studies at CBFS. All the questionnaires were successfully returned to the researcher and subsequently the responses which confirmed to the inclusive criteria were selected for further data analysis. The respondents who did not go through the GFP at CBFS were excluded from the research.

The detailed representation, analysis and understanding are as follows:

Gender

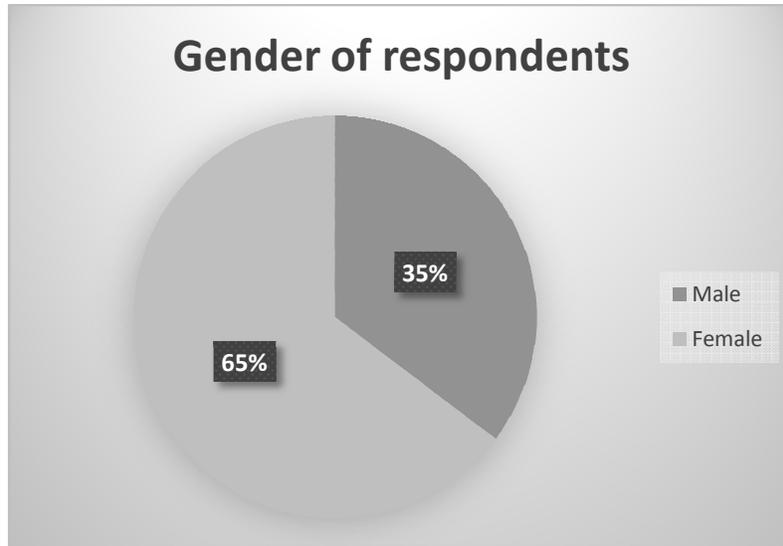
It is clearly shown in the table and the chart that 65% of the respondents were female whereas, 35% respondents were male. Therefore, female students were in majority.

Marwah

Table 1: Gender

| Gender | No of Respondents | Percent |
|--------|-------------------|---------|
| Male | 82 | 35% |
| Female | 150 | 65% |

Figure 5: Gender of Respondents



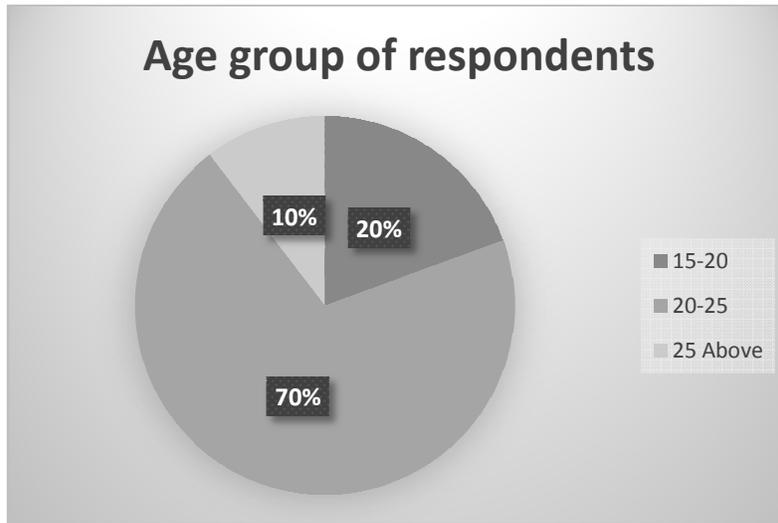
Age groups

The data represented below shows that the majority of the respondents were from the age group of 20-25, followed by the age group of 15-20 and 25 above.

Table 2: Age Groups

| Age Group (in years) | No of Respondents | Percent |
|----------------------|-------------------|---------|
| 15-20 | 45 | 20% |
| 20-25 | 163 | 70% |
| 25 Above | 24 | 10% |

Figure 6: Age Group of Respondents



Current Programme of Study

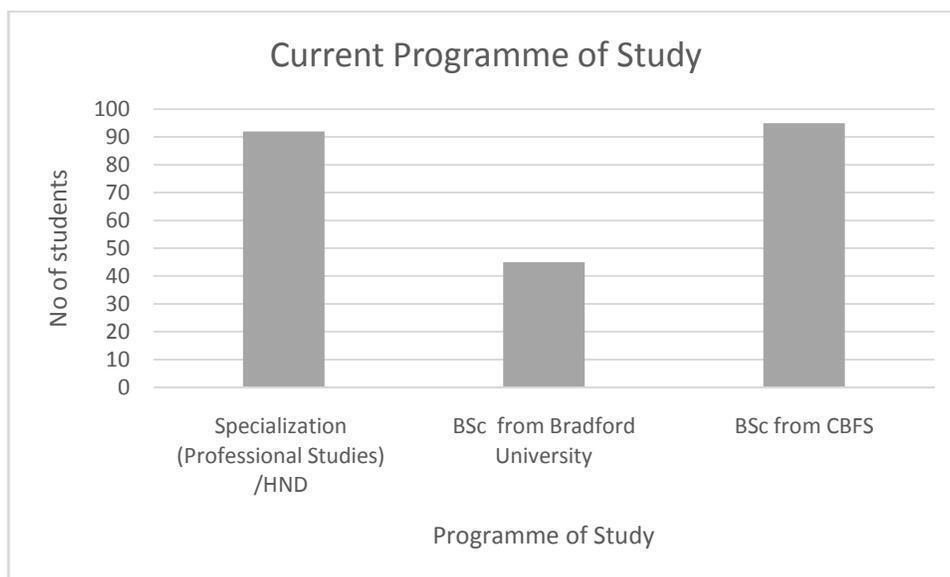
Following data represents the distribution of the students in various academic programmes chosen by the students after the successful completion of the General Foundation Programme as CBFS. However, there was a possibility of direct entries as well, which was identified in the subsequent question for the determination of exclusive criteria.

The results represented below shows that about 41% of students were from the local degree programme offered at CBFS, 40% were on the Professional Studies/HND programme and finally about 19% students were on the Bradford degree programme offered at CBFS.

Table 3: Current Programme of Study

| Current Programme of Study | No of Students | Percent |
|--|----------------|---------|
| Specialization (Professional Studies) /HND | 92 | 40% |
| BSc from Bradford University at CBFS | 45 | 19.30% |
| BSc from CBFS (local degree programme) | 95 | 40.90% |

Figure 7: Current Programme of study



Determination of Inclusive Criteria

The following data was elicited to establish the inclusive criteria for further research as the students who did not go through the GFP at CBFS and consequently did not go through the Information Skills module, were excluded from the research. However, majority of the students have gone through the GFP at CBFS and were trained on information skills in the last semester of Foundation Studies. The data represented below shows that about 90% of the students confirmed to the fact that they went through the foundation Programme and all those students did the Foundation Programme at CBFS and thus qualify and confirm to the inclusive criteria for the research and further elicitation and analysis. Approximately 10% of the students were excluded.

Table 4: Number of Students from GFP

| Have you undergone through the Foundation Programme | No of students | Percent |
|---|----------------|---------|
| Yes | 209 | 90.08% |
| No | 23 | 9.9% |

Table 5: Number of Students from GFP at CBFS

| If yes, Where | No of students | Percent |
|---------------|----------------|---------|
| CBFS | 209 | 100% |
| Other | 0 | 0% |

Marwah

Usefulness and efficacy of the overall Information Skills Module and the major skills taught on the module.

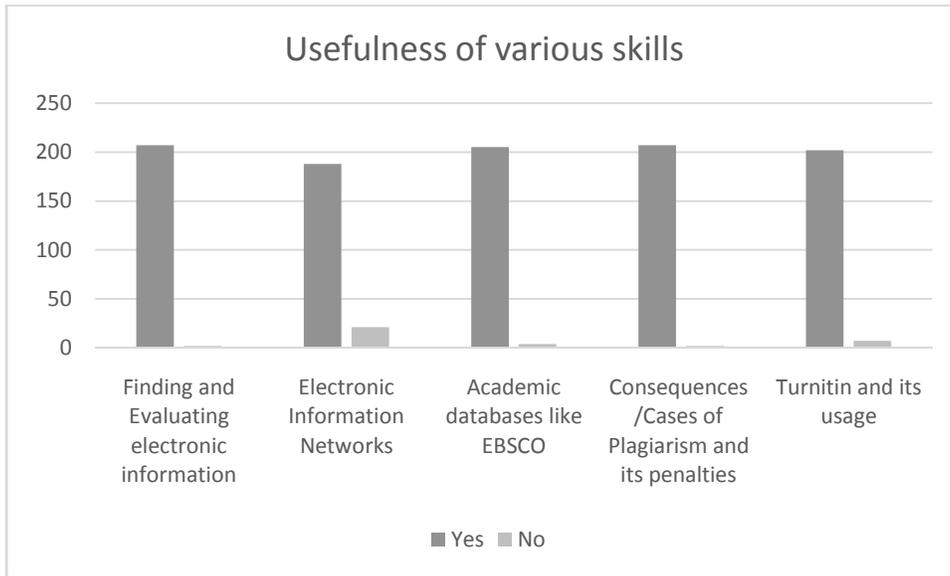
Further elicitation was aimed at establishing the proposed hypothesis by querying the respondents about the efficacy and utility of the module and its individual components. The data represented below clearly exhibits that majority of the students were in agreement that all the components taught on the module were useful for them in HE. 99% of the students agreed on the worthiness of 'Finding and evaluating electronic information', 89.9% of students clearly agreed on the usefulness of 'The introduction of electronic information networks', 98% students were in agreement on the importance of the training given on 'Academic databases', 99% students were in agreement on the importance of being introduced to the consequences and cases of plagiarism and lastly, 96.6% of the students were in agreement on the usefulness of the training given on 'Turnitin and its usage in Higher Education'. Therefore, it can be clearly seen that students have realised the importance of each component of the introduced Information Skills module and agreed in consensus on the utility of each component. Thus, the second hypothesis that, the students have realised the importance of all major components of module and consequently admitted that the module has certainly helped them to perform better in Higher Education, is established.

Table 6: Evaluation of Individual Skills

| Skills | Yes | No |
|---|------------|-----------|
| Finding and Evaluating electronic information | 207 | 2 |
| Electronic Information Networks | 188 | 21 |
| Academic databases like EBSCO | 205 | 4 |
| Consequences /Cases of Plagiarism and its penalties | 207 | 2 |
| Turnitin and its usage | 202 | 7 |

Marwah

Figure 8: Rating of Skills In Terms of Usefulness in HE

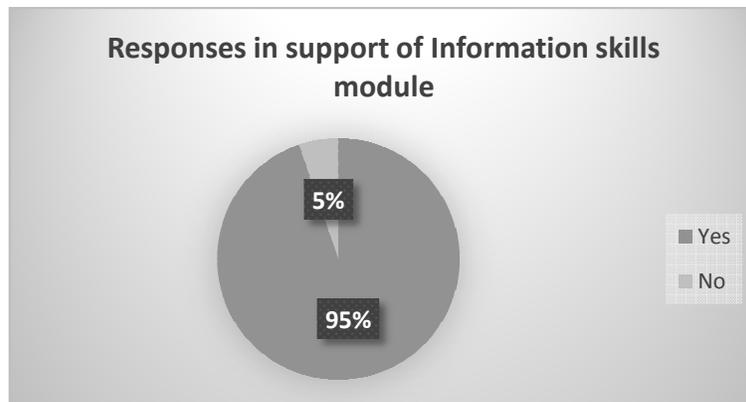


Subsequently, on asking, ‘Do you think that Academic Information skills module helped you to perform better in Higher Education’, majority of the respondents agreed in consensus on the overall efficacy of the module. It can clearly be seen from the elicited information represented below, that 94.7% of the students responded positively on the usefulness of the overall module in Higher Education.

Table 7: Overall Evaluation of the Module

| Response | No of respondents | Percent |
|----------|-------------------|---------|
| Yes | 198 | 94.7% |
| No | 11 | 5.2% |

Figure 9: Responses in Support of Information Skills Module



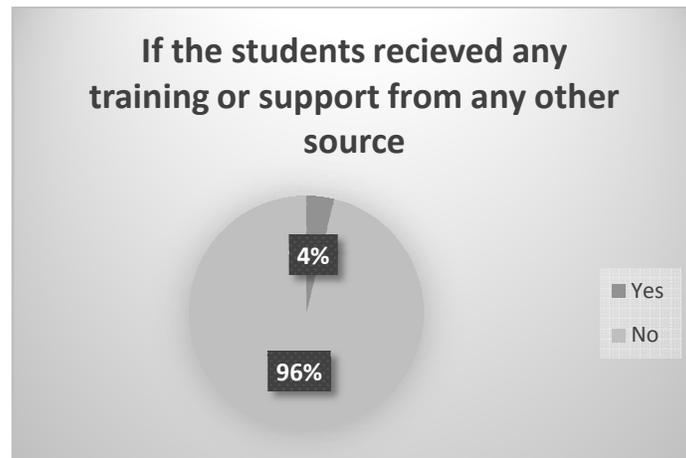
Marwah

In order to elicit information further, the respondents were asked if they received any help or training on Information Skills from any other source in the college apart from the skills taught on the integrated module at the Foundation Level, and to which 96% of the respondents denied the availability of any other support ever extended to them in terms of guidance or training. Thus, further proving the importance of imparting such skills by integrating them with the core IT skills in order to develop and produce information literate students.

Table 8: Availability of Extra Training or Support from Other Sources

| Response | No of respondents | Percent |
|----------|-------------------|---------|
| Yes | 8 | 4% |
| No | 201 | 96% |

Figure 10: Availability of Support or Training from Other Sources



The above data analysis clearly exhibits that the students were in consensus agreed on the efficacy and the worthiness of the intervention, which intended to develop information literacy among the students by introducing and integrating information skills module in the IT component of GFP at CBFS. Thus, the above data analysis supports and accept the first proposed hypothesis, that the integration of the information skills module with the IT component of GFP has significantly helped to develop information literacy among the students, which eventually resulted in a remarkable increase in their level of confidence.

Recommendations

- Integration of Information skills with the IT component of GFP as a part of the curriculum to develop information literacy among the students at the foundation level of Tertiary education.
- Adapt to a holistic and flexible approach towards embedding information literacy into the overall learning process, to develop autonomy in students through active engagement and reflection.

Marwah

- A monitored reinforcement of Information skills must be assessed across all other modules to ensure the implementation.
- Faculty members must receive resource based relevant training and work in collaboration with the Librarian and the core skills providers.
- Information Literacy is incorporated, supported and developed among the students through continuous support, guidance and active involvement of faculty members.
- Increased level of awareness can be monitored further through a pre-test and post-test analysis and the similar intervention research can be performed in various other Higher Education Institutions in Oman.

5. Conclusion

To conclude, in the 21st century, information literacy is an essential skill for all students at tertiary level of education, and it broadly encompasses both IT skills and information skill. Information literacy determines two-dimensional academic success in terms of the level of academic competence and the intelligence of a student in efficient and effective usage of information. On one hand the Higher Education Institutions in Oman are imparting IT skills integrated in the General Foundation Programmes as per prescribed OAAA standards, but on the other hand completely ignoring much needed information skills. Consequently, failing to produce information literate students who are equipped and empowered with the required information skills to identify, critically evaluate and analyse information available on digital information resources. Therefore, it is of prime importance in the present digital age that along with core IT skills, equal importance is given to essential information skills and the same has to be standardised as one of the major graduate attribute for improved academic performance and to develop employability skills in the students. Thus, carefully devised integrated intervention is critical at the foundation stage of tertiary level of education.

Unfortunately, there has been an evident ignorance about integrating information literacy in the curriculum for the GFPs in Oman as the outcomes defined by higher accreditation bodies for the IT component of GFP does not clearly include information skills in integration with IT skills, neither it is integrated with any other component of the programme. However, it can certainly be seen through the intervention and the research conducted, that the introduction and active modular integration of information skills in the IT component of GFP has significantly helped students in performing better in HE. Therefore, to keep up to with the rapid growth of digital information and to produce information literate students, it is imperative to impart information skills along with the IT skills to produce information literate individuals, and recognise information literacy as a key graduate attribute and a significant part of the learning process. Thus, it is proposed, that HEIs in Oman must proactively adapt an integrated and collaborative approach through active involvement of the academic staff, academic staff developers, librarians, and students to develop information literacy in students. Perhaps, a more structured nationwide implementation for an effective and seamless integration can be observed, if the recommendation comes from national higher accreditation bodies.

6. Limitations

Control group was not included in the study.

References

- ACRL (Association of college and research libraries) 2000, *Information Literacy*, Association of college and research libraries, viewed 10 December 2016, <<http://www.ala.org/ala/acrl/>>.
- American Library Association 1989, *Presidential Committee on Information Literacy: Final Report*, viewed 15 January 2017 <<http://www.ala.org/acrl/publications/whitepapers/presidential>>.
- Anderson, LW & Krathwohl, DR (Eds), Airasian PW, Cruikshank KA, Mayer RE, Pintrich PR, Raths J & Wittrock MC 2001, *A Taxonomy For Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, NY: Longman, New York.
- Birkbeck College 2017, *Information Literacy Skills Grid*, viewed 18 February 2017, <http://www.bbk.ac.uk/lib/life/InformationLiteracy/_LOs/InformationLiteracySkillsGrid.pdf>.
- Bundy A (ed.) 2004, *Australian and New Zealand Information Literacy Framework principles, standards and practice, 2nd ed.*, Australian and New Zealand Institute Information Literacy, Adelaide.
- California State University 1995, *Commission on Learning Resources and Instructional Technology, Work Group on Information Competence. Information Competence in the CSU: A Report*, viewed 8 January 2017, <[http://librarv.csun.edu/susan.curzon/fact sheet.html](http://librarv.csun.edu/susan.curzon/fact%20sheet.html)>.
- Eshet-Alkalai Y 2004, 'Digital literacy: a conceptual framework for survival skills in The digital era', *Journal of Educational Multimedia and Hypermedia*, Vol. 13, No. 1, Pp. 93-106.
- Gillespie D & Brooks M 2001, 'Mission possible: partnerships for innovation' in Frylinck J (ed.), *Partners in learning and research: changing roles for Australian Technology Network Libraries*, University of South Australia, Adelaide, pp. 105-121.
- Goldstein S 2015, *Perception of the SCONUL Seven Pillars of Information Literacy*, viewed 10 February 2017, <<https://www.sconul.ac.uk/sites/default/files/documents/Seven%20Pillars%20Review%202015.pdf>>.
- Hepworth, M 2017, *Higher Education: Information Literacy*, viewed 10 January 2017, <<http://www.informationliteracy.org.uk/sectors/il-higher-education/>>.
- Hepworth, M & Wema, E 2006, *The design and implementation of an information literacy training course that integrated Information and Library Science conceptions of information literacy, educational theory and information behaviour research: a Tanzanian pilot study*, viewed 10 March 2017, <<https://dspace.lboro.ac.uk/dspace-jspui/handle/2134/723>>.

Marwah

- SCONUL 1999, *Information skills in higher education: A SCONUL Position Paper*, viewed 12 February 2017, <https://www.sconul.ac.uk/sites/default/files/documents/Seven_pillars2.pdf>.
- Martin, JL 2013, *Learning from Recent British Information Literacy Models: A Report to ACRL's Information Literacy Competency Standards for Higher Education Task Force*, viewed 10 January 217, <<http://mavdisk.mnsu.edu/martij2/acrl.pdf>>.
- Information Literacy Group 2017, *Models and Frameworks*, viewed 17 January 2017, <<http://www.informationliteracy.org.uk/definitions/il-models/#squelch-taas-accordion-shortcode-content-1>>.
- Moira, B & Stubbings, R 2011, on behalf of the SCONUL Working Group on Information Literacy, *The SCONUL Seven Pillars of Information Literacy Core Model for Higher Education*, viewed 10 February 2017, <<https://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf>>.
- NASPA: National Association of Student Personnel Administrators 2004, *Learning Reconsidered: A campus-wide focus on the student experience*, viewed 12 January 2017, <www.myacpa.org/pub/documents/learningreconsidered.pdf>.
- Ojedokun, AA & Lumade, E 2005, 'The Integration of information literacy skills In to a credit-earning programme at the University of Botswana. *Africa Journal of Library, Archive and information Science, Vol. 15, No. 2, Pp. 117 – 124.*
- Philadelphia University 2017, *What is Information Literacy*, viewed 16 February 2017, <https://www.philau.edu/infolit/what_students.htm>.
- Rader, HB 2002, 'Information Literacy 1973-2002: A Selected Literature Review', *Library Trends, Vol. 51, No. 2, Pp. 242-59.*
- Reinbold, S 2013, 'Using the ADDIE model in designing library instruction', *Medical Reference Services Quarterly, Vol. 32, No. 3, Pp. 244-256.*
- Summey, T & Valenti, S 2013, 'But we don't have an instructional designer: Designing online library instruction using ISD techniques', *Journal of Library & Information Services in Distance Learning, Vol. 7, No. 1, Pp. 169-182.*
- University of Tasmania 2017, *SCONUL 7 Pillars and information and research skills*, viewed 17 February 2017, <<http://www.utas.edu.au/library/teach/information-research-skills/sconul-7>>.
- Ulster University 2017, *Theme Cards: Information Skills*, viewed 17 February 2017, <<http://wiki.ulster.ac.uk/download/attachments/29557521/InformationSkills.pdf?api=v2>>.
- Webber, S & Johnston, B 2004, 'Information literacy: The Social Action Agenda', *Proceedings of the fifth National Information Literacy Conference*, University of South Australia Library, Adelaide, Pp. 11-15.