The 7I's Model for Graduate Attributes (GAs) in Jordanian Universities

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Abstract

Graduate attributes (GAs) in Jordanian universities website have been mentioned as generic skills, soft skills or work ready skills. Which means that they are high-level qualities of skills and understandings that a student should have as outcomes of the learning and experiences they are engaged in.

Jordanian Universities have drawn up lists of Graduate Attributes but without consistency in how these attributes were named and described, so it will be difficult to compare universities and their different curricula.

This research aimed to implementing the 7I's GAs model to find patterns and similarities in the characteristics adopted by universities in Jordan to build a comprehensive and clear language for the graduates attributes.

We will use qualitative content analysis to quantify the Graduate Attributes, condensing lists of attributes in Jordanian universities statement missions into attributes grouped into 7I's GAs Model.

Keywords: graduate attributes, graduate attribute model, 7I's Model.

 Introduction

Looking at the previous literature, we find that Graduate Attributes began in Australia, United Kingdom, Europe and the United States of America by examining general aptitudes and skills, whereas Discussions about Graduate Attributes began in the 1990s when institutions of higher education started developing the competencies to qualify graduates for employment.

Talking about and looking at the nature of Graduate Attributes has become more refined over time, (Lipan, Irwin, Nordmann, & Perkins, 2020) Mention definition for Graduate Attributes according to (Bowden, Hart, King, Trigwell and Watts, 2000)

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"Qualities, skills and understandings a university community agrees its students should develop during their time with the institution" that "prepare graduates as agents for social good in an unknown future".

This definition set that: the Graduate Attributes are high-level qualities, skills and understandings that a student should acquire as outcomes of the learning process and expertise, which they were engaged in during university. So university equips students for a lifelong personal development learning, and to be successful in society and life.

(Little & McMillan, 2014) Were published research Titled "Graduate Attributes: Development and Testing" aimed to develop a set of Graduate Attributes that were:

- **Consistent** with and relevant to expectations of the community, employers and professional bodies, and Universities.

- **Reflective of the unique qualities** of education at the Universities.

- Able to be **clearly evidenced** as graduate's outcomes.

- **Practicable** in their implementation.

- **Sufficient**ly broad to accommodate discipline and profession specific differences.

- **Developed** through a consultation process with Faculties and Schools.

In addition, they found that the shift in emphasis from mapping the Graduate Attributes against all aspects of the curriculum to focusing on evidence of achievement was an important activity.

(Van Schalkwyk, Herman, & Muller, 2012) Explained a number of key principles ought to be considered when embarking on a project to encourage the development of Graduate Attributes that:

• Desirable attributes are most usefully formulated at universities, specifically when integrated in the curriculum in the context of disciplinary knowledge

• Teaching and learning practices, including assessment, ought to be aligned with outcomes, including those linked to graduate attributes

• "Formative feedback" is fundamental to the development of graduate attributes

• Academics' conceptions of graduate attributes need to be explored and shared

The evidence from the literature as shown in (Moalosi, Molokwane, & Mothibedi, 2017) institutions of higher education could no longer treat Generic Attributes as already mingled in the discipline-specific attributes; And effective approach to achieving graduate attributes were based on the concept of learning by doing. Therefore, students were involved in integrated activities linking theory and practice.

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The research papers highlighted the need to consider consciously, holistically and critically the educational pedagogies and spaces that Graduate Attributes open up for us. We have to work positively with Graduate Attributes in our curricula to move towards more participatory and self-regulatory teaching, learning and assessment. Uniting disciplinary knowledge and skills with generic competencies (which enable mindful application of subject-specific expertise in academic and societal contexts) offers a bright future in higher education (Hill, Walkington, & France, 2016).

(Lipan, Irwin, Nordmann, & Perkins, 2020) used content analysis to identify recurring attributes between UK universities and develop shared categories as the basis for a universal model of Graduate Attributes called (7I's Model of Graduate Attributes), condensing lists of attributes from 27 UK universities into 43 attributes grouped into seven categories **Table 1** A list of 7I,s Model of Graduate Attributes categories contains 43 Graduate Attributes as set in (Lipan, Irwin, Nordmann, & Perkins, 2020)

7I Categories	Graduate Attributes	Description
INTERACTION Interacting and working with others	Collaboration	Being able to work together with others to reach a common goal.
	Communication	Being able to communicate with others in different contexts, for different purposes and audiences, and in various ways (e.g. oral, visual, written, listening, electronic)
	Giving and receiving feedback	Being able to respond positively to feedback, as well as being able to offer feedback to others
	Leadership	Having the ability to lead others, directing, influencing them positively, and inspiring them
	Negotiation	Having the ability to negotiate with others to reach a consensus or shared vision.
	Networking	Having the ability to establish and maintain professional connections with others
	Professionalism	Conducting oneself appropriately in different contexts
	Teamwork	Being able to work individually within a team, towards a common goal, understanding their role and the role of others in the team.
INTEGRITY moral compass, an awareness and respect for diversity, and displaying a willingness to get involved for the good of the community at	Awareness and appreciation of diversity	Having an awareness and understanding of diversity in all its forms. Being inclusive, accepting and respecting diversity.
	Active citizenship	Being aware and recognizing one's own responsibility when it comes to social and civic issues.
	Ethical	Having a strong moral compass and being aware of ethical issues in their field. Behaving ethically

local, national and international levels	Global citizenship	Seeing themselves as primarily a citizen of the world and being engaged with and aware of international issues.
INFORMATION Knowing, managing, and acquiring information	Commercial and professional understanding	Having a real world understanding of how businesses and professionals work.
	Critical thinking	Being able to critically analyze and evaluate information to reach an unbiased conclusion or make a decision.
	Digital literacy	Being able to use digital platforms to find, manage, and share information, and to communicate
	Information literacy	Being able to recognize when information is needed, to find, analyze, and synthesize it. This includes traditional literacy as well as numeracy.
	Life-long learning	Being intellectually curious and having the ability and desire to continue learning throughout life for personal or professional reasons.
	Multi-/Interdisciplinary	Having knowledge and understanding beyond their academic subject, and understanding the links between own and other subjects.
	Open-minded	Being receptive to new ideas and change.
	Reasoning	Being able to process information in a logical way.
	Research and enquiry	Knowing how and being able to conduct research and enquiry.
	Specialist knowledge and skills	Having skills and knowledge relevant to their academic subject.
IMPLEMENTATION Solving problems and putting plans and decisions into effect	Decision making	Being able to weigh possibilities in order to make effective decisions.
	Enthusiasm	Demonstrating passion and keenness when it comes to work or an academic subject.
	Knowledge and skills application	Being able to contextually apply knowledge and skills.
	Planning and organizing	Being able to lay out plans and organize resources to carry out these plans effectively.
	Problem solving	Being able to identify, define and solve complex problems in a variety of contexts.
	Sustainability	Demonstrating commitment to sustainability, especially when solving problems and making decisions.

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INTROSPECTION Knowing oneself, appreciating one's own value, and being able to adapt and change.	Adaptability	Being able to adjust to new environments and situations, as well as when seeking solutions to problems.
	Ambition	Having a strong desire and determination to achieve success.
	Confidence	Having faith in and relying on oneself and one's own skills, knowledge, and decisions.
	Reflection	Being able to reflect on own work, progress, achievements, and selfidentity.
	Resilience	Being able to develop and use coping strategies to recover from difficult, stressful and challenging situations.
	Self-awareness	Being conscious of own skills, knowledge, character and feelings, and how these can influence behavior and decisions.
	Self-esteem	Having an overall sense of self-worth or personal value and pride.
INGENUITY Being original, creating something new, or improving an existing idea, product or process in a new way.	Creating knowledge	Being able to develop new ideas and create new knowledge, using research and enquiry.
	Creativity	Being able to use imagination and original ideas to create something new or to combine existing concepts and ideas in a new way.
	Enterprising	Showing initiative and resourcefulness.
	Innovation	Being able to bring creative changes to already existing ideas, methods, products, or services. Similar to creativity but more focused on improving a certain product or idea.
INDEPENDENCE Performing, thinking, and acting independently	Independent work/learning	Being able to self-direct and work or learn independently.
	Independent thinking	Being able to think for oneself and question existing ideas, rather than just adopting others' thoughts or ideas.
	Self-management	Being able to manage oneself, take care of own needs, and take responsibility for own actions and behavior.
	Unprompted action	Being able to take the initiative, and being proactive rather than reactive.

2. The aims of this research were:

(1) Use content analysis to identify recurring features among Jordanian universities and to identify common groups found in 7I's GAs Model.

(2) Derive clear names and detailed descriptions for the attributes and categories.

3. Research questions:

1. Are the graduate attributes at Jordanian Universities across sufficiently similar in meaning that they can be reduced in 7I's GAs model?
2. If so, what are the common attributes and what do they mean?

4. Method

Content analysis

 (Stemler, 2001) According to Krippendorff (1980), put six questions must be addressed in every content analysis:

1) Which data are analyzed?

2) How are they defined?

3) What is the sample and population of the study?

4) What is the context relatively to the analyzed data?

5) What are the boundaries of the analysis?

6) What is the target of the inferences?

This study will use data in the form of publicly available lists of Graduates Attributes collected from the websites of universities in Jordan, which we found like mission statements.

Then we will define the mission statements into seven categories in 7I's GAs model (**I**nteraction, **I**ntegrity**, I**nformation, **I**mplementation, **I**ntrospection, **I**ngenuity, and **I**ndependence).

The second rater should code lists of mission statement and the inter-rater reliability measurement will be based on the codes, with the categorization being fully agreed on by both raters.

5. Results

Inter-rater reliability

Cohen's kappa (κ) was used to calculate inter-rater reliability as a measure of the agreement between the two raters. The kappa coefficient ($\kappa = 0.85$) indicated **Almost Perfect** agreement.

Content analysis

Mission statements which were collected from the websites of universities in Jordan identified forty-five recurring symbols, which were distributed it in the 7I's Graduate Attributes model.

Jordanian universities have been mentioned (Yarmouk University, Jordan University of Science and Technology, Al-Balqa Applied University, German – Jordanian University, The Hashemite University, Mutah University and Tafila Technical University.

Table 2 A list of 7I's GAs categories and their descriptions have been mentioned in the mission statement of Jordanian universities' web sites.

Category	Agreement Mentions	Example of The description mentioned
Interaction	10	• building firm societal ties • embarking on local and global partnerships
Integrity	3	• appreciate diversity, be ready to contribute to the sustainable development • sense of civic and moral responsibility and a devotion to the fundamental values of human life
Information	7	• conducting knowledge-generating research • building knowledge economy
Implementation	6	• Developing competencies in various fields of science and knowledge • supports the capacities of education and theoretical as well as applied research
Introspection	8	• preparing loyal men and women
Ingenuity	3	• conducive to creativity • stimulates creativity • incubating and stimulating environment for innovation
Independence	3	• Providing students with fulfilling learning experiences

6. Discussion

This search is focus on setting an Implementation model of Graduate Attributes. The content analysis identified 45 common attributes, which were mentioned in 7I's GAs model categories (**I**nteraction, **I**ntegrity**, I**nformation, **I**mplementation, **I**ntrospection, **I**ngenuity, and **I**ndependence). To ensure that the model covers suitable founds of attributes in the mission statement of Jordanian universities web site.

The results are in agreement with (Lipan, Irwin, Nordmann, & Perkins, 2020) that define the set of traits that have been mentioned as important by universities and support the idea of a common core language for Graduate Attributes. This global model can be used as a base for directions on major Graduate Attributes focus, across Jordanian universities, nonetheless reducing the current lack of clarity and understanding about Graduate Attributes.

Students, academics, and decision-makers should refine Graduate Attributes to be communicated clearly, meaningfully, relevantly, and taught as part of the formal curriculum, Evaluation and feedback are crucial to this process.

7. Conclusion.

The 7I's GAs model is a robust framework constructed through extensive consultation with stakeholders that they take data from universities across the UK. The model has widespread relevance for embedding Graduate Attributes in the curriculum. It provides a clear and simple language for Graduate Attributes that can support communication and collaboration between stakeholders and can have implications for quality assurance by enabling comparisons between universities. Moreover, to collaboratively develop new assessment methods.

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