

ANNEXURE A: CONCEPT ANALYSIS – AUTHENTIC LEARNING (DEFINITIONS AND USES OF AUTHENTIC LEARNING)

COLUMN 1 : CONCEPT ANALYSIS	COLUMN 2 : CONCEPT SYNTHESIS	COLUMN 3 : CONCEPT DERIVATION
IDENTIFIED CONNOTATIONS OF AUTHENTIC LEARNING FROM RELEVANT LITERATURE	FURTHER REDUCTION OF CONNOTATIONS FROM COLUMN 1	FINAL REDUCTION INTO CATEGORIES AND CONNOTATIONS FROM COLUMN 2
<p>1. Oxford Advanced Learner’s Dictionary (2010).</p> <ul style="list-style-type: none"> Authentic: known to be <u>real</u> and <u>genuine</u> and not a copy; <u>true</u> and <u>accurate</u>; made to be exactly the same as the <u>original</u> Learning: the process of learning something; knowledge that one get from reading and studying 	<p>1. Authentic learning is learning that is true, genuine, original and authoritative.</p> <p>1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 79, 122, 139, 156.</p>	<p>Context</p> <p>Authentic learning is real-world, and real-life contextual in nature.</p> <p>3, 4, 18, 19, 20, 21, 22, 30.</p>
<p>2. Chambers 21st Century Dictionary (2007).</p> <ul style="list-style-type: none"> Authentic: <u>genuine</u>; <u>reliable</u>; <u>trustworthy</u>; <u>true</u> to the <u>original</u> Learning: knowledge gained through study; what is learned; scholarship 	<p>2. Authentic learning is a pedagogical approach to learning.</p> <p>18, 21, 29, 36, 41, 48, 53, 55, 68, 82, 117, 141.</p>	<p>Antecedents</p> <p>Authentic learning is a pedagogical approach that requires antecedents such as cognitive, and affective skills.</p> <p>2, 5, 6, 7, 8, 9, 10.</p>
<p>3. Webster’s Universal Unabridged Dictionary and Atlas of the World (1940).</p> <ul style="list-style-type: none"> Authentic: having a <u>genuine origin</u> or <u>authority</u>, in opposition to that which is false, fictitious, or 	<p>3. Authentic learning is learning that is meaningful, purposeful, intentional and relevant to the students in a real-life environment.</p>	<p>Process</p> <p>To attain the process, the following phases and categories were derived:</p>

<p>counterfeit; <u>being what it purports to be</u>; <u>genuine, true</u>; applied to things; as, an authentic paper or register</p> <ul style="list-style-type: none"> • Learning: the act of gaining knowledge or skill; education: acquired knowledge in any special subject, especially in science or literature, as a result of study or instruction; erudition 	<p>15, 18, 20, 22, 24, 30, 46, 48, 53, 55, 57, 58, 65, 66, 69, 72, 73, 77, 80, 84, 85, 86, 87, 94, 97, 98, 99, 100, 104, 108, 111, 118, 128, 130, 141, 142, 143, 152.</p>	<p>Awareness of lack of knowledge</p> <p>11.</p> <p>Interactive, integrative, constructive approach to intentional, real-life meaningful learning that involves:</p> <ul style="list-style-type: none"> • Higher order thinking skills activities • Investigative/ Discovery/ Disciplined Inquiry/ Research- based activities • Collaboration/ Co-operative activities • Dialogic/ Discourse/ Argumentation/ Conversational activities • Models to direct authentic teaching, learning and assessment activities <p>3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29.</p>
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		<p>Metacognitive skills: self-concept (self-knowledge, self-awareness, self-directed inquiry, self-evaluation); metalearning (ability to plan, execute and evaluate own learning), ability to make rational decisions and solve complex, real-world, ill-defined problems open to multiple perspectives.</p> <p>8.</p>
<p>4. Cambridge Advanced Learner's Dictionary (2013)</p> <ul style="list-style-type: none"> • Authentic: if something is authentic, it is <u>real</u>, <u>true</u>, or <u>what people say it is</u> • Learning: activity of obtaining knowledge; knowledge obtained by study 	<p>4. Authentic learning involves community of learners in real-life interaction, real-life integration of prior knowledge with new knowledge, active meaningful engagement, participation and involvement.</p> <p>15, 17, 24, 25, 26, 32, 35, 39, 41, 43, 52, 53, 58, 60, 66, 71, 77, 79, 81, 82, 83, 84, 87, 92, 94, 98, 101, 103, 106, 108, 111, 112, 113, 115, 120, 123, 128, 129, 131, 134, 135, 139. 141, 143, 147, 153, 158.</p>	<p>Outcome</p> <p>The outcome of authentic learning is a competent, critical, autonomous, independent, life-long graduate desirable for the twenty-first (21st) century global healthcare system.</p> <p>30, 31.</p>

<p>5. Chambers Dictionary of Etymology (2000).</p> <ul style="list-style-type: none"> • Authentic: <u>authoritative</u>; one acting on one's own <u>authority</u>, master, perpetrator • Learning: to get knowledge, be cultivated 	<p>5. During authentic learning, cognitive domain aspects of students are needed such as knowledge, understanding, application, analysis, synthesis and evaluation.</p> <p>24, 27, 29, 36, 40, 42, 45, 57, 58, 59, 63, 64, 69, 71, 72, 77, 79, 80, 85, 86, 87, 90, 91, 93, 94, 95, 96, 97, 100, 102, 106, 108, 110, 114, 115, 118, 119, 121, 123, 126, 129, 134, 135, 136, 137, 138, 143, 145, 147, 148, 150, 153, 157, 158, 159, 160.</p>	
<p>6. The Universal Dictionary of the English Language (1961).</p> <ul style="list-style-type: none"> • Authentic: <u>original</u>, <u>genuine</u>; one who <u>does a thing himself</u>, absolute master; murderer; of known <u>origin</u>, <u>being what it purports to be</u>, <u>genuine</u> • Learning: knowledge, information, acquired by study; erudition; act, process, of acquiring knowledge by study 	<p>6. Authentic learning process require cognitive activities such as identifying, prioritizing, exploring, discussions, engaging in dialogue, evaluating, developing, constructing new knowledge, inquiring, distinguishing, recognising, analyse information, explaining, engaging in performance based activities, investigating, conversing, cognitive stimulation, engaging in discourse, discovering,</p>	

	<p>being aware, facilitation, reflecting, engaging in arguments, bringing multiple perspectives, interpreting information, challenging and asking relevant questions, thinking and rethinking problems, examining, interrogating, making direct connections, creating, generalizing, experiment, researching and articulating prior knowledge with new knowledge.</p> <p>9, 17, 18, 19, 20, 21, 22, 23, 27, 29, 31, 36, 39, 41, 44, 45, 46, 47, 51, 52, 54, 55, 58, 60, 64, 65, 69, 70, 72, 74, 75, 77, 79, 80, 81, 82, 83, 86, 87, 92, 93, 94, 95, 96, 98, 99, 100, 101, 102, 103, 104, 106, 107, 111, 112, 113, 114, 115, 118, 119, 120, 121, 122, 123, 126, 129, 132, 134, 135, 136, 137, 139, 140, 141, 143, 146, 147, 149, 152, 153, 154, 158, 159.</p>	
<p>7. The Oxford Dictionary (2015).</p>	<p>7. Authentic learning involves the use of and development of cognitive higher</p>	

<ul style="list-style-type: none"> • Authentic: of <u>first-hand authority</u>, <u>original</u>, <u>original authority</u>; one <u>who does a thing himself</u>, a principal, <u>master</u>, an autocrat • Learning: the action of the verb “learn”; the action of receiving instruction or acquiring knowledge; a process which leads to the modification of behaviour or the acquisition of new abilities or responses, and which is additional to natural development by growth or maturation 	<p>order thinking skills such as problem solving, reflective thinking, metacognition, critical thinking, creative and innovative thinking, informed decision making, and clinical judgment.</p> <p>9, 19, 24, 25, 32, 38, 39, 41, 43, 44, 45, 47, 49, 52, 53, 54, 56, 58, 60, 64, 65, 67, 69, 70, 72, 79, 81, 83, 84, 91, 92, 93, 94, 95, 99, 100, 102, 110, 111, 112, 115, 118, 119, 121, 128, 131, 140, 143, 145, 146, 147, 149, 160, 161.</p>	
<p>8. Webster’s New International Dictionary of the English Language (1924).</p> <ul style="list-style-type: none"> • Authentic: coming from the <u>real author</u>, of <u>original</u> or firsthand <u>authority</u>, one who does anything <u>with his own hand</u>; <ul style="list-style-type: none"> ○ : having a <u>genuine origin</u> or <u>authority</u>, in opposition to that which is false, fictitious, counterfeit, or apocryphal; <u>being what it purports to be</u>; <u>genuine</u>; not of doubtful <u>origin</u>; <u>real</u>; ○ : of approved <u>authority</u>; <u>true</u>; <u>trustworthy</u>; <u>credible</u> 	<p>8. The process of authentic learning leads to the learner developing metacognitive abilities to make rational decisions and solve multiple real-life complex ill-defined problems autonomously. Metacognition produces an effective, independent life-long learner.</p> <p>9, 17, 18, 19, 20, 24, 25, 29, 32, 38, 39, 41, 43, 44, 45, 47, 49, 52, 53, 56, 58, 60, 67, 68, 69, 70, 72, 79, 81, 83, 84, 87, 91, 92, 93, 95, 99, 102, 103, 110,</p>	

<ul style="list-style-type: none"> Learning: acquisition of knowledge or skill or of information <ul style="list-style-type: none"> : knowledge or skill received by instruction or study; acquired knowledge or ideas in any branch of science or literature; erudition 	111, 112, 116, 119, 122, 128, 134, 136, 143, 145, 147, 151.	
9. Dictionary of Education (2009) <ul style="list-style-type: none"> Authentic learning: schooling related to <u>real-life situations</u>-the kinds of <u>problems</u> faced by adult citizens, consumers, or <u>professionals</u> ... Authentic learning <u>situations</u> require <u>teamwork</u>, <u>problem-solving skills</u> and the ability to <u>organise</u> and <u>prioritise</u> the tasks needed to complete the project ... The goal is to produce a <u>high-quality solution</u> to a <u>real problem</u>, not to see how much the student can remember. 	9. During authentic learning, affective domain aspects of students are needed such as receptiveness, responding, valuing, organising and internalisation. 9, 15, 16, 28, 46, 48, 65, 68, 69, 71, 83, 86, 87, 94, 95, 96, 98, 100, 104, 107, 112, 118, 120, 126, 133, 139, 160.	
10. APA Dictionary of Psychology (2007) <ul style="list-style-type: none"> Authenticity: the quality of being <u>genuine</u> or of <u>undisputed origin</u> Learning: the process of acquiring new and relatively enduring information, behaviour patterns or abilities, characterized by modification of behaviour as a result of practice, study or experience 	10. Authentic learning process require affective and conative activities such as willingness, freedom to make choices, dispositions to learn, habits of mind, devotion of serious self-directed effort, motivation, positive attitude, enthusiasm, commitment, emotions, worldviews, values, ability to organise, beliefs, sharing responsibility, building relationships, personal meaning,	

	<p>personal interest and experience as well as patience.</p> <p>9, 15, 16, 28, 29, 31, 39, 43, 46, 47, 60, 62, 65, 68, 69, 71, 77, 78, 87, 95, 96, 99, 101, 103, 104, 105, 107, 109, 111, 112, 118, 120, 123, 126, 129, 134, 135, 136, 146, 153, 157, 160.</p>	
<p>11. Dictionary of Philosophy (1981).</p> <ul style="list-style-type: none"> In <i>existentialism</i>, a philosophical and literacy movement that ... focused on the <u>uniqueness</u> of each human individual as distinguished from abstract universal human qualities. <p>The Stanford Encyclopedia of Philosophy (2014)</p> <ul style="list-style-type: none"> Authenticity is 'existential' in that it commences from the <u>situated</u>, concrete, and embodied <u>practices</u> of everyday life. 	<p>11. Authentic learning is triggered by ambiguity, uncertainty and cognitive dissonance.</p> <p>25, 116, 119, 120, 124, 125, 134.</p>	
<p>12. The Oxford American Desk Dictionary and Thesaurus (2010).</p> <ul style="list-style-type: none"> Authentic: worthy of belief, as because of precision or faithfulness to an <u>original</u>: <u>authoritative</u>; <u>convincing</u>, <u>credible</u>, <u>faithful</u>, <u>true</u>, <u>trustworthy</u>, valid. 	<p>12. Authentic learning is based on the participation and motivational models.</p> <p>15, 17, 28, 31, 32, 43, 48, 53, 77, 84, 113, 120, 128, 134, 135.</p>	

<ul style="list-style-type: none"> ○ Not counterfeit or copied: <u>actual</u>, <u>bona fide</u>, <u>genuine</u>, good, indubitable, <u>original</u>, <u>real</u>, <u>true</u>, <u>undoubted</u>, <u>unquestionable</u> ● Learning: to gain knowledge or mastery of by study: get, master <ul style="list-style-type: none"> ○ To commit to memory: con, memorize ○ To obtain knowledge or <u>awareness</u> of something not known before, as through observation or study 		
<p>13. The Heritage Roget's Thesaurus (2014)</p> <ul style="list-style-type: none"> ● Authentic: Worthy of belief, as because of precision of faithfulness, to an <u>original</u> <ul style="list-style-type: none"> ○ <u>Authoritative</u>, convincing, credible, faithful, <u>true</u>, <u>trustworthy</u>, <u>valid</u> ○ Not counterfeit or copied ○ Actual, bona fide, <u>genuine</u>, good, indubitable, <u>original</u>, <u>real</u>, <u>true</u>, undoubted, unquestionable ● Learning: known facts, ideas, and skills that have been imparted 	<p>13. Authentic learning is based on the andragogical model in that adult learners wish to know the content's relevance to them, they take responsibility for their learning, are self-directed, have prior experiences that serve as rich learning resource, they have interest and are ready to learn. They have life-centered orientation to learning involving problem solving and are task-centered as well as have intrinsic motivation to learn.</p> <p>9, 16, 18, 19, 20, 22, 24, 25, 29, 30, 31, 32, 35, 38, 39, 41, 45, 47, 48, 49,</p>	

	<p>52, 53, 56, 58, 60, 61, 62, 65, 67, 69, 72, 78, 79, 81, 83, 84, 91, 92, 93, 95, 96, 94, 98, 99, 100, 101, 102, 104, 106, 107, 110, 111, 113, 119, 127, 128, 131, 135, 136, 140, 152, 153, 160.</p>	
<p>14. Blackwell's Nursing Dictionary (2005)</p> <ul style="list-style-type: none"> Authenticity: The quality of being <u>genuine</u> and <u>valid</u>. 	<p>14. Authentic learning is embedded in the constructivistic approach.</p> <p>16, 17, 18, 19, 25, 26, 29, 36, 39, 44, 47, 55, 58, 60, 62, 65, 81, 82, 83, 86, 90, 93, 102, 103, 108, 109, 112, 114, 122, 126, 136, 140, 143, 149, 158, 161.</p>	
<p>15. Authentic learning means learning to <u>participate</u> from a <u>personal sense</u> within <u>culturally</u> bound, often pre-set, <u>meaning</u> structures (Leont'ev <i>in</i> Stein, Isaacs & Andrews, 2004).</p>	<p>15. Authentic learning is based on the humanistic model that views students as unique individuals, to be involved in student-centered learning practices, which have relevance to them, are able to participate in their own learning through involvement and choice (in a non-threatening environment) and where educators are facilitators.</p>	

	<p>11, 15, 17, 18, 19, 22, 23, 24, 26, 29, 32, 35, 39, 41, 49, 53, 54, 58, 60, 62, 69, 70, 71, 80, 84, 86, 87, 98, 100, 105, 111, 113, 120, 122, 128, 131, 134, 136, 141, 143, 147, 152.</p>	
<p>16. Authentic learning is a form of learning in which a pupil takes a <u>deep personal interest</u> often thought to be based in '<u>natural</u>' personality traits, so that in some cases authenticity and the points of view of a <u>culture</u> to be learnt in school are seen to be in opposition to each other (Van Oers & Wardekker, 1999).</p>	<p>16. Authentic learning is experiential and activity-based learning which includes activities such as role-play, problem-based, case studies, inquiry activities and investigative activities.</p> <p>9, 18, 19, 20, 22, 24, 25, 26, 30, 32, 35, 38, 39, 41, 45, 47, 48, 49, 52, 53, 56, 57, 58, 60, 61, 67, 69, 70, 72, 79, 80, 83, 84, 86, 91, 92, 93, 94, 95, 96, 98, 99, 102, 104, 110, 111, 127, 128, 129, 130, 131, 134, 135, 136, 139, 140, 141, 142, 143, 145, 147, 148, 149, 151, 155, 160.</p>	
<p>17. Authentic learning is the dynamic relation between a <u>personality-under-construction</u> and <u>cultural practices-being-reconstructed</u>, which is aimed at <u>developing</u> an authentic and <u>autonomous person</u> able to <u>participate</u> in a</p>	<p>17. Authentic learning is based on the Situated-Learning Theory.</p> <p>9, 11, 44, 45, 61, 66, 88, 97, 108, 109, 117, 139, 153, 155, 157, 160.</p>	

<p><u>competent</u>, yet <u>critical</u> way in <u>cultural practices</u> (Van Oers & Wardekker <i>in</i> Stein <i>et al.</i>, 2004).</p>		
<p>18. Authentic learning is a <u>pedagogical approach</u> that allows students to <u>explore</u>, <u>discuss</u>, and <u>meaningfully construct</u> concepts and <u>relationships</u> in <u>contexts that involve real-world problems</u> and projects that are <u>relevant</u> to the learner (Donovan, Bransford & Pellegrino <i>in</i> Mims, 2003).</p>	<p>18. Authentic learning is contextual in nature.</p> <p>15, 16, 17, 18, 19, 24, 25, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 47, 48, 55, 57, 58, 59, 60, 64, 65, 67, 75, 77, 82, 83, 84, 85, 89, 90, 98, 106, 107, 108, 111, 113, 118, 134, 137, 138, 146, 154, 156.</p>	
<p>19. Authentic learning takes place through a process of <u>performance-based activities</u> by students in <u>contexts</u> that: (1) have <u>real-world relevance</u>, (2) are <u>ill-defined</u>, (3) are <u>complex</u> and <u>extended</u>, (4) allow for <u>multiple perspectives</u>, (5) provide opportunity to <u>collaborate</u>, (6) provide opportunity to <u>reflect</u>, (7) allow for <u>integrated, applied</u> and <u>interdisciplinary outcomes</u>, (8) <u>integrate activities</u> with <u>assessment</u>, (9) result in <u>whole product</u> rather than being a sub-part of something larger, and (10) allow for <u>competing solutions</u> (Herrington, Oliver & Reeves, 2003).</p>	<p>19. Authentic learning has emphasis on the global context.</p> <p>18, 19, 31, 32, 33, 34, 35, 37, 38, 39, 41, 47, 49, 56, 59, 62, 63, 67, 76, 81, 83, 84, 90, 91, 92, 98, 99, 107, 111, 123, 129, 130, 136, 141, 144, 145, 150, 155, 156, 158.</p>	
<p>20. In authentic learning, learners are presented with <u>realistic problems</u> or projects that have <u>realistic purposes</u> and given the opportunity to <u>investigate</u> and <u>converse</u> about these</p>	<p>20. Authentic learning has emphasis on the social and community-based contexts.</p>	

<p><u>problems</u> and projects in manners that are <u>applicable to them and their lives</u> (Carlson, 2002).</p>	<p>25, 26, 29, 36, 39, 46, 58, 65, 90, 103, 108, 113, 114, 134, 143, 161.</p>	
<p>21. Authentic learning is also an <u>approach</u> to learning that is solidly grounded in <u>research</u> on learning and <u>cognition</u> (Carlson, 2002).</p>	<p>21. Authentic learning is embedded in contexts that reflect real-world, real-life 21st century / future professional, and community-based practices in real or virtual / creative modes / environments beyond classroom.</p> <p>22, 25, 26, 27, 29, 31, 32, 36, 39, 41, 46, 54, 57, 58, 61, 65, 68, 70, 76, 78, 84, 86, 87, 90, 97, 99, 103, 107, 108, 111, 113, 114, 122, 126, 133, 136, 139, 141, 145, 148, 152, 155, 156, 160, 161.</p>	
<p>22. Learning authentically means that students should be <u>stimulated</u> to <u>develop relevant competencies</u> by being confronted with learning <u>experiences</u> that <u>stimulate</u> their <u>real-life</u> or <u>future professional practice</u> (Herrington & Oliver, 2000).</p>	<p>22. Authentic learning involves presentation of realistic, real-world, and real-life problems to learners, which have real-world relevance, with realistic purposes, by asking real-life questions, in real-life situations, using real-life application of knowledge in real-life, real-world contexts.</p>	

	1, 4, 8, 9, 18, 19, 20, 22, 24, 31, 32, 33, 37, 38, 39, 40, 41, 43, 48, 49, 51, 53, 56, 58, 60, 62, 63, 64, 66, 67, 69, 76, 81, 83, 84, 89, 92, 93, 96, 99, 103, 108, 110, 111, 112, 123, 129, 130, 136, 138, 141, 144, 145, 148, 150, 155, 156, 158.	
23. Authentic learning is a vehicle through which everything from basic skills to advanced content and processes come together in the form of <u>student-developed products</u> and services (Renzulli, Gentry & Reis, 2004).	23. Authentic learning is research and discovery-based learning. 20, 21, 32, 38, 39, 41, 44, 47, 54, 55, 70, 81, 83, 86, 93, 96, 99, 111, 149, 159.	
24. Authentic learning is frequently defined as learning in which students acquire and use <u>knowledge</u> in <u>real-life contexts</u> , and it <u>involves solving problems</u> that are <u>meaningful</u> , <u>challenging</u> and <u>complex</u> (Lee & Goh, 2012).	24. Authentic learning is developmental in nature. 17, 22, 23, 31, 45, 54, 70, 72, 75, 80, 92, 93, 94, 99, 109, 118, 137, 140, 146, 152.	
25. Authentic learning occurs within <u>social contexts</u> that often <u>involve ill-defined problems</u> , <u>uncertainties</u> , and <u>ambiguities</u> (Lee & Goh, 2012).	25. Authentic learning involves disciplinary, interdisciplinary, multidisciplinary and multidimensional approach. 19, 46, 47, 52, 65, 84, 91, 101, 107, 118, 119, 122, 136, 143.	

<p>26. Authentic learning <u>involves</u> a <u>community of learners collaborating</u> and <u>interacting</u> with the <u>wider community</u> through <u>field experiences</u> (Lee & Goh, 2012).</p>	<p>26. Authentic learning involves communities of learners working collaboratively.</p> <p>19, 20, 26, 29, 39, 47, 55, 58, 60, 62, 81, 82, 83, 87, 90, 93, 102, 108, 109, 112, 114, 122, 136, 140, 143, 161.</p>	
<p>27. Authentic learning can provide students with opportunities to <u>construct knowledge</u> and acquire skills needed for success <u>outside of school</u> (Lee & Goh, 2012).</p>	<p>27. Authentic learning involves Problem-Based learning approach.</p> <p>9, 18, 19, 20, 24, 25, 32, 38, 39, 41, 44, 45, 47, 49, 52, 53, 56, 58, 60, 67, 69, 72, 79, 83, 84, 91, 92, 93, 95, 99, 100, 102, 110, 111, 119, 131, 134, 136, 140, 141, 143, 145, 147, 160.</p>	
<p>28. Authentic learning also addresses <u>affective</u> aspects of learning such as <u>motivation</u>, <u>attitudes</u>, and <u>dispositions</u> (Lee & Goh, 2012).</p>	<p>28. In an authentic learning context, integrated assessments are used as a true reflection of an authentic learning process.</p> <p>19, 30, 34, 47, 97, 107, 122.</p>	
<p>29. Authentic learning is a <u>constructivist approach</u> to learning based on some common assumptions of <u>constructivism</u> (a) <u>complex</u>, <u>challenging</u> learning environments and <u>authentic</u></p>	<p>29. Authentic learning tasks/problems are ill-defined, complex, open-ended and challenging.</p>	

<p><u>tasks</u>; (b) learning through <u>social negotiation</u> and <u>shared responsibility</u>; (c) <u>multiple representations</u> of the content; (d) <u>understanding</u> that <u>knowledge is constructed</u>; and (e) <u>student-centered</u> instruction (Knobloch, 2003).</p>	<p>19, 24, 25, 29, 32, 47, 67, 83, 84, 91, 93, 95, 106, 112, 129, 134, 136, 143, 145, 147.</p>	
<p>30. Authentic learning occurs through <u>tasks</u>, <u>activities</u>, and <u>assessments</u> that result in achievement that is <u>meaningful</u> rather than that which is trivial or useless (Newmann & Wehlage <i>in</i> Knobloch, 2003).</p>	<p>30. Authentic learning is aimed at developing a 21st century graduate who is an empowered autonomous person, yet competent and critical, able to develop holistic, polished and creative products and services that have real-life purposes and impact in the real-world.</p> <p>17, 19, 22, 23, 33, 35, 39, 47, 53, 68, 70, 81, 89, 122, 143, 147, 149, 152.</p>	
<p>31. Authentic learning comprises learning in ways that fit with the <u>real-world contexts</u>, where learning is <u>motivated</u> and <u>developed</u> by the context, and is also learning that <u>develops skills</u> and concepts for effective living in <u>contemporary society</u> now and in the <u>future</u> (Kearney & Schuck, 2004).</p>	<p>31. Authentic learning develops graduates who will solve real-life problems with real, possible, innovative and high-quality solutions, and who will be able to judge, synthesize, be patient, and flexible.</p> <p>9, 19, 32, 44, 60, 69, 91, 99, 100, 110, 118, 119, 121, 136, 146, 147, 149, 154.</p>	

<p>32. Authentic learning is learning that focuses on <u>real-world</u>, <u>complex problems</u> and their solutions using <u>role-playing exercises</u>, <u>problem-based activities</u>, <u>case studies</u>, and <u>participation in virtual communities of practices</u> (Lombardi, 2007a).</p>	<p>32. Authentic learning is neither a copied, false, fictitious, counterfeit learning, nor a traditional way of learning. It is neither sterile teaching nor the assessment of memorization of facts that occurs in the classroom or the laboratory.</p> <p>1, 3, 8, 9, 12, 13, 19, 30, 43, 50, 61, 77, 96, 100, 110, 132, 133, 145, 156, 159.</p>	
<p>33. Authentic learning comprises a <u>complex of principles</u> that can guide institutions in designing curricula to prepare graduates for the <u>real-world</u> (McKenzie, Morgan, Cochrane, Watson & Roberts, 2002).</p>	<p>33. Authenticity is related to true, genuine, and original.</p> <p>1, 2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 79, 122, 139, 156.</p>	
<p>34. Authentic learning is a <u>measure</u> of a curriculum's <u>relevance</u> or <u>appropriateness to the world</u> that graduating students will enter (McKenzie <i>et al.</i>, 2002).</p>		
<p>35. Authentic learning <u>involves</u> alignment of <u>student learning experiences with the world</u> for which they are being prepared (McKenzie <i>et al.</i>, 2002).</p>		
<p>36. An authentic learning <u>approach</u> aims to make the study of often <u>abstract ideas</u> or issues that can seem to be irrelevant to student's daily lives <u>tangible</u>, and it offers a means by which students can potentially <u>understand</u> how</p>		

their identities are <u>socially constructed</u> and <u>positioned</u> (Borthwick, Bennett, Lefoe & Huber, 2007).		
37. Authentic learning is learning that is presented in <u>real-world context</u> (Norman, Din & Nordin, 2011).		
38. Authentic learning is a learning concept that relates to giving and <u>solving “real-world problems”</u> to learners using <u>role playing exercise</u> , <u>problem-based activities</u> , and <u>case studies</u> (Husnin, Din, Karim, Norman & Hamdan, 2013).		
39. Authentic learning <u>involves real-world problems</u> that <u>engage</u> learners in the work of <u>professionals</u> ; <u>inquiry activities</u> that <u>practice thinking skills</u> and <u>metacognition</u> ; <u>discourse</u> among a <u>community of learners</u> ; and student <u>empowerment</u> through <u>choice</u> (Rule, 2006).		
40. Authentic learning is learning in contexts that promote <u>real-life application</u> of <u>knowledge</u> (Rule, 2006).		
41. Authentic learning <u>approach</u> is aimed at <u>engaging</u> students in <u>real-world inquiry problems</u> <u>involving higher order thinking skills</u> with an <u>authentic audience</u> <u>beyond the classroom</u> (Inder & Withell, 2013).		
42. Authentic learning emphasizes that learning <u>contexts</u> should be most <u>authentic</u> as possible, to support transfer of <u>knowledge</u> from formal education to <u>practice</u> (Mattar, 2010).		

<p>43. Authentic learning <u>involves</u> increasing <u>motivation</u> and <u>enthusiasm</u>, helping learners to <u>make decisions</u> concerning their learning, as well as identifying <u>nontraditional ways of learning</u> is enhanced and accounting for such learning (Maina, 2004).</p>		
<p>44. In the context, authentic learning refers to the creation of an authentic learning environment, which <u>situates</u> the learner in a number of “<u>real teaching</u>” scenarios to enable them to <u>problem solve</u>, <u>discuss</u> and <u>research</u> possible solutions (Bahr & Rohner, 2004).</p>		
<p>45. The main aim of authentic learning is to provide students with <u>everyday-life challenges</u> that <u>develop knowledge</u> and skills through <u>problem solving</u> in different <u>situations</u> (Chan, Lee, Wang & Chen, 2010).</p>		
<p>46. Authentic learning <u>intentionally</u> brings into play <u>multiple disciplines</u>, <u>perspectives</u>, ways of working, <u>habits of mind</u>, and <u>communities</u> (Lombardi, 2007a).</p>		
<p>47. The authentic learning <u>experience</u> can also be categorized into 10 design elements: <u>real-world relevance</u>, <u>ill-defined problems</u>, sustained <u>investigation</u>, <u>multiple perspectives</u>, <u>collaboration</u>, <u>reflection</u>, <u>interdisciplinary perspectives</u>, <u>integrated assessment</u>, <u>polished products</u>, and <u>multiple interpretations</u> (Lombardi, 2007a).</p>		

<p>48. In authentic learning, materials and activities are framed around <u>“real-life” contexts</u> in which they would be. The underlying assumption of this <u>approach</u> is that the material is <u>meaningful</u> to students and therefore, more <u>motivating</u> and <u>deeply processed</u> (Herod <i>in</i> Chan <i>et al.</i>, 2010).</p>		
<p>49. Authentic learning allows for students to <u>experience real-world problems</u> while in a learning environment (Herrington, Reeves, Oliver & Woo, 2004).</p>		
<p>50. Authentic learning is the antithesis of <u>sterile teaching</u> where students serve as uncritical sponges (Maksimowicz, 1993)</p>		
<p>51. Authentic learning occurs when instruction is designed to <u>facilitate, simulate and recreate real-life complexities</u> and occurrences (Karagiorgi & Symeou, 2005).</p>		
<p>52. Authentic learning <u>engages</u> students in the <u>multidisciplinary problem solving</u> and <u>critical thinking</u> researchers and experts use every day (Windham & Oblinger, 2007).</p>		
<p>53. Authentic learning is an <u>approach</u> to learning in which students work on <u>realistic problems</u>, <u>participate</u> in activities that <u>solve real-life problems</u>, or <u>create products</u> that have <u>real-life purposes</u> (Oguz & Bahar, 2008).</p>		

<p>54. Authentic learning leads to student <u>creativity</u>, <u>discovery</u>, <u>awareness</u> and <u>development</u> in and <u>outside the classroom</u> (Oguz & Bahar, 2008).</p>		
<p>55. Authentic learning environment is a <u>pedagogical approach</u> that allows learners to <u>explore</u>, <u>discover</u>, and <u>discuss</u> ideas to come up with <u>meaningful</u> information (Yahaya, 2006).</p>		
<p>56. Deale (2008) describes authentic learning as “learning that focuses on educational activities related to <u>real-world problems</u> and issues.”</p>		
<p>57. Authentic learning activities aim to enable learners to <u>comprehend</u> how <u>practitioners</u> can perform their tasks <u>purposefully</u> and <u>meaningfully</u> (Brown, Collins & Duguid, 1989).</p>		
<p>58. Authentic learning is conducted when individuals form <u>communities</u> to <u>solve real-life problems</u>, to <u>engage</u> in <u>practices</u> in which <u>knowledge</u> is <u>negotiated</u> through <u>meaningful social interactions</u> (Brown <i>et al.</i>, 1989).</p>		
<p>59. Authentic learning describes learning that emphasizes the context in which what has been learned can be <u>applied</u> (Albrecht, 2012).</p>		
<p>60. Authentic learning focuses on <u>real-world problems</u> and solutions, <u>involves collaboration</u> and <u>reflection</u>, and <u>builds relationships</u> for student success (Davis & DuVivier, 2013).</p>		

<p>61. Authentic learning, or <u>situated learning framework</u> (different from the classroom instruction or learning activities in the laboratory), emphasizes that activities must be authentic and <u>significant in the workplace</u> (Huang, 2011).</p>		
<p>62. Authentic learning occurs when <u>constructivism</u>, <u>student-centered practices</u>, and student <u>choice</u> are <u>incorporated</u> and result in <u>real-world relevance</u> (Davis & DuVivier, 2013).</p>		
<p>63. Authentic learning occurs when educators <u>incorporate</u> projects in curricula that help students <u>understand</u> what they are expected to learn and be able to do in the <u>real-world</u> (Davis & DuVivier, 2013).</p>		
<p>64. Authentic learning is the notion of learning <u>knowledge</u> and skills in contexts that <u>reflect</u> the way the <u>knowledge</u> will be <u>useful</u> in <u>real-life</u> (Collins, 1988).</p>		
<p>65. Authentic classroom practice ... <u>reflects</u>, for the students, a combination of <u>personal meaning</u> and <u>purposefulness</u> within an appropriate <u>social and disciplinary framework</u> (Tochon, 2000).</p>		
<p>66. Authentic learning is learning that is seamlessly <u>integrated</u> or implanted into <u>meaningful</u>, <u>“real-life” situations</u> (Jonassen, Howland, Marra & Crismond, 2008).</p>		

<p>67. Authentic learning is <u>experiential</u> learning located in settings that <u>reflect complex real-world problems</u> (Curtin University, 2014).</p>		
<p>68. Authentic learning potentially builds learners' capacity in all four domains: <u>cognitive</u>, <u>affective</u>, <u>psychomotor</u> and <u>conative</u> and is therefore a useful learning <u>approach</u> to <u>preparing students for work in the 21st century</u> (Curtin University, 2014).</p>		
<p>69. Authentic learning consists of <u>applying relevant knowledge</u>, <u>thinking skills</u>, and <u>interpersonal skills</u> to the solution of <u>real problems</u> (Renzulli, 1997).</p>		
<p>70. Authentic learning consists of <u>investigative</u> activities and the <u>development</u> of <u>creative products</u> in which students assume roles as first-hand <u>investigators</u>, writers, artists, or other types of <u>practicing professionals</u> (Renzulli, 1997).</p>		
<p>71. Authentic learning represents a <u>synthesis</u> and an <u>application</u> of content, process, and <u>personal involvement</u> (Renzulli, 1997).</p>		
<p>72. Authentic learning is learning which emphasizes "<u>meaningful</u>, authentic activities that help the learner to <u>construct understandings</u> and <u>develop skills relevant to problem solving</u>" (Todd, 2003).</p>		
<p>73. Authentic learning is an <u>active search</u> for <u>meaning</u> by the learner (Todd, 2003).</p>		

74. Authentic learning is about <u>making</u> and <u>maintaining connections</u> (Todd, 2003).		
75. Authentic learning is <u>developmental</u> (Todd, 2003).		
76. Authentic learning is learning that has an irrefutably strong orientation towards the <u>real-world outside the classroom</u> and school environment (Rossi, 2013).		
77. Authentic learning seeks to <u>motivate</u> and <u>engage</u> students in the <u>meaningful construction</u> of <u>knowledge</u> rather than in the reproduction of existing facts or ideas (Rocky View Schools, 2014).		
78. Authentic learning strives to give <u>significance</u> to student learning <u>beyond the classroom</u> and <u>encourages</u> students to “ <u>devote the serious effort</u> that learning requires” (Newman, King & Carmichael <i>in</i> Rocky View Schools, 2014).		
79. If learning is authentic, then students should be <u>engaged</u> in <u>genuine learning problems</u> that foster the opportunity for them to <u>make direct connections</u> between the new material that is being learned and their <u>prior knowledge</u> (Fenton, 2008).		
80. Authentic learning is important and occurs when students <u>develop meaningful understanding</u> from activities they <u>initiate</u> and <u>have control over</u> (Fenton, 2008).		

<p>81. Authentic learning <u>involves exploring the world around, asking questions, identifying information resources, discovering connections, examining multiple perspectives, discussing ideas, and making informed decisions</u> that can have a <u>real impact</u> (Callison & Lamb, 2004).</p>		
<p>82. Authentic learning is a <u>pedagogy</u> based on the principles of <u>constructivism</u> and provides one of the most effective ways to <u>actively engage</u> the students in the learning process (Mariappan, Monemi & Fan, 2005).</p>		
<p>83. Authentic learning is learning in environments that <u>immerse learners in research</u> into, and the <u>collaborative solving of complex real-world problems open to multiple responses</u> (Eijkman, 2012).</p>		
<p>84. Authentic learning <u>embeds</u> learners in inherently process <u>focused, participatory, and multidisciplinary environments</u>. These environments, whether in <u>real or virtual mode</u>, focus on <u>complex, open-ended, real-world problem solving tasks</u> and produce <u>outcomes</u> that have <u>meaning beyond the learning environment</u> (Eijkman, 2012).</p>		
<p>85. Authentic learning is <u>acquiring knowledge</u> in the contexts that (will) give this <u>knowledge</u> its <u>meaning</u> (Vanderstraeten & Biesta, 1998).</p>		
<p>86. The three criteria that define authentic achievement are: 1) students <u>construct meaning</u> and <u>produce knowledge</u>; 2)</p>		

<p>students use <u>disciplined inquiry</u> to produce <u>knowledge</u>; and 3) students aim their work toward production of <u>discourse</u>, <u>products</u>, and <u>performances</u> that have <u>value</u> or <u>meaning</u> <u>beyond</u> success in <u>school</u> (McDowell, 2009).</p>		
<p>87. Authentic traits <u>involve</u> the use of <u>higher order thinking</u>, <u>substantial conversation</u> about the topic, <u>peer support</u> for achievement, <u>acquiring</u> a depth of <u>knowledge</u>, and <u>value</u> and <u>meaning</u> <u>beyond the classroom</u> (McDowell, 2009).</p>		
<p>88. Authentic learning is letting students <u>encounter</u> and <u>master</u> <u>situations</u> that resemble <u>real-life</u> (Kellow, 2006).</p>		
<p>89. Learning to be authentic it <u>must have an impact</u> on others beyond the simple demonstration that they are <u>competent</u> (Wehlage, Newmann & Secada, 1993).</p>		
<p>90. Authentic learning is a <u>social practice</u> enabling students to act <u>knowledgeably</u> and <u>powerfully</u> in the classroom and <u>the</u> <u>world</u> (Kruger, Cherednichenko, Hooley & Moore, 2001).</p>		
<p>91. Authentic learning typically focuses on <u>real-world</u>, <u>complex</u> <u>problems</u> and their solutions and the learning activity is set in a '<u>real-world</u>' <u>application</u> or <u>discipline</u> (Stavredes, 2011).</p>		
<p>92. Authentic learning <u>engages</u> learners in <u>experiences</u> that <u>develop</u> their <u>problem solving</u> and <u>critical thinking</u> skills needed in <u>real-world</u> (Herder & Stavredes, 2013).</p>		
<p>93. Authentic learning requires students to <u>develop</u> <u>critical</u> <u>thinking skills</u> to work with <u>ill-defined problems</u>, <u>research</u> in</p>		

<p>order to <u>gather</u> information and <u>evidence</u>, <u>collaborate</u> in order to <u>understand multiple perspectives</u>, and <u>reflect</u> to be able to continuously improve <u>performance</u> over time (Herder & Stavredes, 2013).</p>		
<p>94. Authentic learning requires the <u>development</u> of “<u>active learning</u>” strategies, which place the <u>responsibility</u> of learning and acquiring <u>knowledge</u> on the learner, it requires the learner to <u>reflect</u> on what they know as they <u>actively engage</u> in learning activities to <u>make meaning</u> from the content and <u>construct</u> new <u>knowledge</u> (Herder & Stavredes, 2013).</p>		
<p>95. Authentic learning has <u>real-life value</u>, enables students to <u>actively construct knowledge</u>, and is used in order to <u>solve problems</u> and <u>complete open ended</u> tasks (Kocyigit & Zembat, 2013).</p>		
<p>96. Authentic learning helps students bring their <u>experiences</u>, <u>knowledge</u>, <u>beliefs</u> and <u>interests</u> into the classroom, this enables them to <u>experiment</u> with and use the <u>knowledge</u> they have <u>constructed</u> rather than to simply <u>memorize</u> facts (Kocyigit & Zembat, 2013).</p>		
<p>97. Authentic learning is learning that is <u>meaningful</u> to students, <u>measures complex</u> skills and content in <u>multiple modes</u>, and is <u>transferable</u> to new <u>situations</u> (Brown & Mevs, 2012).</p>		

<p>98. Authentic learning is learning that utilises <u>real-world experiences</u>, which make the content <u>relevant</u> and <u>engage</u> the learners <u>in their own meaning-making</u> (Andersson & Andersson, 2005).</p>		
<p>99. Authentic learning demands <u>patient questioning</u>, <u>reflection</u>, <u>interrogating</u> several potential <u>explanations</u>, and <u>developing</u> familiarity with several sides of a <u>problem</u>, question, or issue ... it is learning <u>connected</u> to something <u>meaningful</u> in the <u>world outside school</u> (Starratt, 2004).</p>		
<p>100. Authentic learning is learning that is <u>relevant to the learner</u> and does not rely on the transmission of <u>knowledge</u> but <u>asking questions</u>, <u>finding</u> solutions and <u>creating</u> responses (Campbell, 2011).</p>		
<p>101. Authentic learning is a process that <u>involves</u> a rich, <u>multidimensional</u>, <u>committed</u> kind of learning that <u>engages</u> the curriculum in its depth and complexity (Starratt, 2004).</p>		
<p>102. Authentic learning is learning presented to students with <u>problem-solving</u> activities that incorporate authentic, <u>real-life questions</u> and issues in a format that <u>encourages collaborative effort</u>, <u>dialogue</u> with informed expert sources, and <u>generalization</u> to broader ideas and <u>application</u> (Christensen, 1995).</p>		

<p>103. Authentic learning is learning that <u>engages</u> students in every sense – <u>intellectually</u>, <u>socially</u>, <u>emotionally</u>, and <u>spiritually</u> (Hargreaves & Fink, 2006).</p>		
<p>104. Authenticity in learning is about <u>connecting</u> the learner's <u>search</u> for <u>meaning</u> and <u>purpose</u> in their lives to a variety of <u>personal experiences</u> in the academic curriculum (Bezzina, Burford & Duignan, 2007).</p>		
<p>105. Authentic learning means providing students with <u>a voice</u> (Gross & Burford, 2006).</p>		
<p>106. Authentic learning means building on an <u>already existing knowledge</u> base and then <u>challenging</u> the students to go further (Begg <i>in</i> Campbell, 2011).</p>		
<p>107. Authentic learning has four key factors: 1) learning that is <u>personally</u> authentic for the learner; 2) learning that is authentic in its <u>relation to the real-world outside of school</u>; 3) learning that provides an <u>opportunity to think</u> in the <u>authentic modes</u> of a <u>particular discipline</u>, and 4) learning where the <u>means of assessment</u> are an authentic <u>reflection</u> of the learning process itself (Shaffer & Resnick, 1999).</p>		
<p>108. As a by-product of <u>situated learning theory</u>, authentic learning is usually seen to <u>involve rich life-like, social contexts</u> in which <u>meaningful knowledge</u> is acquired (Lasry, 2006).</p>		

<p>109. Authentic learning refers to learning with materials not specifically developed for learning, and is based on a <u>constructivistic</u> teaching model that seeks to ensure learning by transferring <u>situations</u> and <u>complexities</u> found in <u>real-life</u> into the classroom environment (Cholewinski, 2009).</p>		
<p>110. The authentic learning goal is to produce solutions for <u>real-life problems</u> rather than to <u>directly</u> deliver <u>knowledge</u> on a particular topic (Aydin, 2013).</p>		
<p>111. Authentic learning occurs when educators provide <u>meaningful</u> opportunities and appropriate support for all students to <u>engage</u> in <u>self-directed inquiry</u>, <u>problem solving</u>, <u>critical thinking</u> and <u>reflections</u> in <u>real-world</u> and <u>creative</u> contexts (Maina, 2004).</p>		
<p>112. Authentic learning occurs when learners <u>engage</u> in <u>collaboration</u>, <u>self-reflection</u> and <u>articulation</u> whereby their <u>worldviews</u> and <u>values</u> are <u>validated</u> or <u>challenged</u> (Naidoo, 2012).</p>		
<p>113. Authentic learning or '<u>participation model</u>'; where students <u>participate</u> in the actual work of a <u>professional community</u>, <u>engaging directly</u> in the <u>target community</u> itself (Patrick, Peach, Pocknee, Webb, Fletcher & Pretto, 2008).</p>		

<p>114. Authentic learning therefore provides a means by which students can <u>understand</u> how their identities are <u>socially constructed</u> (Hui & Koplín, 2011).</p>		
<p>115. Authentic learning principles, when adapted into a learning environment <u>engaged</u> the use of <u>higher order thinking skills</u>, <u>encouraged</u> the cultivation of crucial skills, made learning an <u>active</u> process, and enhanced <u>understanding</u> (Tan, Neo, Neo, Kwok, Lee & Lai, 2014).</p>		
<p>116. Authentic learning provokes <u>ambiguity</u> and <u>uncertainty</u> through <u>cognitive dissonance</u> (Ojeda-Ayala, 2011).</p>		
<p>117. As a <u>pedagogical approach</u>, authentic learning has its theoretical foundations on <u>situated learning theory</u> (Ojeda-Ayala, 2011).</p>		
<p>118. Students <u>immersed</u> in authentic learning <u>develop</u> “portable skills” such as: 1) <u>judgement</u> to <u>distinguish reliable from unreliable information</u>; 2) the <u>patience</u> to follow longer <u>arguments</u>; 3) the <u>synthetic ability</u> to <u>recognise relevant patterns</u> in unfamiliar contexts; 4) the <u>flexibility</u> to work across disciplinary and cultural boundaries to <u>generate innovative solutions</u> (Lombardi, 2007a).</p>		
<p>119. Authentic learning environments <u>create uncertainty</u> and <u>ambiguity</u>, and cause the student to <u>question</u>, <u>analyse</u>, <u>rethink</u> the <u>problem</u>, and <u>create</u> alternative solutions <u>using</u></p>		

<p><u>knowledge across numerous disciplines</u> (Windham, 2007; Lombardi, 2007a).</p>		
<p>120. Authentic settings have the capability to <u>motivate</u> and <u>encourage</u> learner <u>participation</u> by <u>facilitating</u> student's <u>willing suspension of disbelief</u>, initial <u>difficulties</u> and <u>dissonance</u> (Herrington <i>et al.</i>, 2003).</p>		
<p>121. Authentic learning promotes <u>higher order thinking</u> such as <u>analyzing</u>, <u>synthesizing</u>, <u>designing</u>, <u>manipulation</u>, and <u>evaluating</u> information (Mims, 2003).</p>		
<p>122. Seven signs of authentic learning are: <u>student centered</u> learning, accessing <u>multiple resources beyond school</u>, students as <u>scientific apprentices</u>, the opportunity to <u>gather original data</u>, <u>lifelong learning</u> beyond the assignment, <u>authentic assessment</u> of process, <u>product</u> and <u>performance</u>, and <u>team collaboration</u> (Rule, 2006).</p>		
<p>123. Authentic learning <u>connects</u> the “in-here” <u>knowledge</u> (<u>thoughts</u>, <u>beliefs</u>, <u>feelings</u>, and <u>dreams</u>) with the “out-there” <u>world</u> (the physical and material domains). The <u>connectedness</u> presupposes a heightened “in-here” <u>awareness</u> of one's own <u>learning engagements</u> when <u>making sense</u> of the “out-there” reality (Cua & Reames, 2012).</p>		
<p>124. Authentic learning is radical. It <u>disrupts</u> the <u>comfort</u> of many students (Cua & Reames, 2012).</p>		

125. A key feature of authentic learning is the <u>uncertainty</u> (Cua & Reames, 2012).		
126. Authentic academic achievement is defined through three criteria: <u>construction of knowledge</u> , <u>disciplined enquiry</u> and <u>value</u> of the achievement <u>beyond</u> the classroom (Campbell, 2011).		
127. Authentic learning is learning that if it occurs the students enter the <u>state of flow</u> , where they are ' <u>deeply absorbed</u> in an activity that is <u>intrinsically enjoyable</u> to them (Campbell, 2011).		
128. Authentic learning means allowing students to <u>participate</u> in <u>decision making</u> processes and delivering <u>student-centred activities</u> that were <u>rich</u> , <u>real</u> and <u>relevant</u> (March <i>in</i> Campbell, 2011).		
129. Grounded in connectivism, authentic learning draws upon the learners' <u>past experiences</u> , <u>challenges</u> the learners' current <u>belief system</u> and assists in the <u>building</u> of <u>new knowledge</u> through <u>experimentation</u> , <u>simulations</u> , and <u>connections</u> to the <u>real world</u> (Siemens, 2005).		
130. Authentic learning <u>intentionally</u> aligns traditional classroom experiences to ' <u>real world</u> ' activities (Lombardi, 2007a).		
131. "Authentic learning" <u>involves problem solving</u> , which is a central part of everyday life (Lee & Goh, 2012).		

<p>132. Learning that is reduced 'to getting the right answers to someone else's questions' is <u>inauthentic learning</u> and is based on <u>dualistic thinking</u> where learning is '<u>right or wrong</u>' (Campbell, 2011).</p>		
<p>133. Authentic learning must extend <u>beyond</u> the <u>memorization</u> of tests and quizzes; it must add <u>value</u> to the lives of the students <u>beyond classroom</u> (Campbell, 2011).</p>		
<p>134. Students are <u>engaged</u> in authentic activities when, as <u>participants</u>, they 1) learn in <u>contexts</u> which constitute in part by <u>ill-defined problems</u>; 2) experience <u>uncertainties</u>, <u>ambiguities</u> and the <u>social</u> nature of scientific work and <u>knowledge</u>; 3) are driven by a demand to <u>apply</u> their current <u>knowledge</u> state; 4) experience themselves as part of <u>communities of enquiry</u> in which <u>knowledge</u>, <u>practices</u>, <u>resources</u> and <u>discourse</u> are <u>shared</u>; and 5) draw on <u>expertise of more knowledgeable</u> persons, be they peers, advisors or teachers (Hung, Cheah, Hu & Cheung, 2004).</p>		
<p>135. Authentic activities provide learners with the <u>motivation</u> to <u>acquire new knowledge</u>, a <u>perspective</u> for incorporating <u>new knowledge</u> into their <u>existing knowledge</u> and an opportunity to <u>apply</u> their <u>knowledge</u> (Edelson, Gordin & Pea <i>in</i> Hung <i>et al.</i>, 2004).</p>		
<p>136. A framework of six indicators for authentic learning. The indicators are: <u>ill-structured</u>, <u>multidisciplinary</u></p>		

<p>problems; student's <u>ownership</u> of learning goals, <u>inquiry processes</u> and strategies; students' <u>collaboration</u> with <u>shared flexible</u> roles and <u>accountability</u>; <u>self-monitoring</u> and <u>evaluation</u> of the learning processes; the use of teachers and <u>experts</u> to provide <u>tools</u>, technique and <u>support</u>; and <u>real-world</u> tools that allow for <u>open communication</u> and <u>sharing</u> among students, teachers, and <u>experts</u> (Hung, Tan & Koh <i>in</i> Samaroo, Cooper & Green, 2013).</p>		
<p>137. Authentic learning occurs when strategies are used that enable <u>conceptual knowledge</u> to <u>develop contextually</u> in settings that <u>reflect reality</u> (Herrington & Herrington <i>in</i> Bland, Topping & Wood, 2011).</p>		
<p>138. Authentic learning puts the learning into a <u>context</u> where the learner can make <u>contextual</u> mistakes without the <u>real-life</u> consequences yet while being supported in <u>understanding</u> and imprinting the right <u>behaviour</u> under <u>realistic</u> conditions (Reiners, Teräs, Chang, Wood, Gregory, Gibson, Petter & Teräs, 2014).</p>		
<p>139. Authentic learning is the interface between '<u>true to life</u>' tasks, <u>activities</u>, and <u>practices</u> and their replicated counterparts in <u>virtual environments</u> or classrooms, such that learners are forced to <u>engage</u> and react in a manner as they would in a '<u>real</u>' <u>situation</u> (Reiners <i>et al.</i>, 2014).</p>		

<p>140. Amory (2012) defined authentic activities as ‘the ordinary <u>practices</u> of the <u>culture</u>’ and included <u>collective problem solving</u>, displaying <u>multiple roles</u>, <u>confrontation</u> of ineffective strategies and <u>misconceptions</u>, and <u>developing collaborative work skills</u>.</p>		
<p>141. Authentic learning <u>pedagogy</u> not only allows students to <u>engage</u> in <u>realistic</u> tasks using <u>real-world resources</u> and tools, but also provides opportunities for students to learn with <u>intention</u> by <u>thinking</u> and <u>acting</u> like <u>professionals</u> as they <u>address real problems</u> (Herrington, Parker & Boase-Jelinek, 2014).</p>		
<p>142. Authentic activity is important for learners because it is the only way they gain access to the standpoint that enables <u>practitioners</u> to act <u>meaningfully</u> and <u>purposefully</u> (Hung <i>et al.</i>, 2004).</p>		
<p>143. Tenets for <u>engaging</u> students in authentic learning experiences, in PBL, PBS or any similar settings, include the following:</p> <ul style="list-style-type: none"> • <u>meaningful</u> and <u>real life complex problems</u> - usually project based; • staging activities - structured <u>activities</u> and <u>investigations</u> that introduce learners to <u>investigation techniques</u>, <u>background knowledge</u> and <u>processes</u> 		

<p>needed in <u>inquiry</u> similar to particular <u>disciplinary practices</u>;</p> <ul style="list-style-type: none"> • supportive tools - <u>cognitive</u> and <u>reflective tools</u> and other forms of <u>social collaboration</u> tools that enable learners to <u>think</u> and <u>collaborate</u>; • embedded information cases - embedding a library of <u>resources</u> that is linked <u>directly</u> to an <u>investigation process</u>; and • <u>monitoring</u> and <u>planning</u> - allowing learners to record the process and intermediate <u>products</u> of an extended activity (Hung <i>et al.</i>, 2004). 		
<p>144. Authentic learning strategies are able to <u>create</u> learning environments that <u>cultivate</u> graduates who would be able to <u>assimilate</u> themselves into the <u>real working world</u> (Yeen-Ju, Mai, Kian, Jing, Wen & Haw, 2014).</p>		
<p>145. Authentic learning principles <u>create</u> learning environments that enable students to <u>acquire higher-order analysis skills</u> and learn <u>complex communication skills</u> as authentic learning forces students to realize that <u>real-world problems</u> can't be solved by textbook answers, as such this would give them assistance when they graduate and begin working (Yeen-Ju <i>et al.</i>, 2014).</p>		
<p>146. Authentic learning as part of their learning process <u>develop skills</u> like being able to <u>discern</u> and <u>judge</u></p>		

<p><u>information</u>, are able to follow <u>less simplistic arguments</u> with better <u>patience</u>, are able to <u>synthesize new</u> found <u>context</u> and have the <u>flexibility</u> to surpass their boundaries when they work (Yeen-Ju <i>et al.</i>, 2014).</p>		
<p>147. An authentic <u>complex problem-based activity</u> such as a <u>group project</u> should <u>engage</u> students in <u>critically identifying</u> the <u>problems</u>, looking at the problem from <u>various perspectives</u>, pulling <u>knowledge</u> from <u>various channels</u> and consequently <u>finding</u> a <u>solution</u> to the <u>problem</u> (Yeen-Ju <i>et al.</i>, 2014).</p>		
<p>148. If learning activities are authentic, students <u>understand</u> the importance of what they are learning as the tasks <u>mirror real-life experiences</u> (Oguz & Bahar, 2008).</p>		
<p>149. In authentic learning, students learn to <u>think critically</u> and <u>creatively</u>, <u>analyze</u> information, <u>express</u> ideas, come up with <u>logical conclusions</u>, and <u>solutions</u> and <u>cooperate</u> with others when trying to <u>explore</u>, <u>discover</u>, <u>discuss</u> and <u>constructs concepts</u> doing the authentic activities (Oguz & Bahar, 2008).</p>		
<p>150. The goal of authentic learning is to help students <u>relate</u> and <u>apply</u> their in-class learning to what they have learnt in the <u>world</u> (Oguz & Bahar, 2008).</p>		
<p>151. Authentic activities prepare students to be <u>lifelong</u> learners (Oguz & Bahar, 2008).</p>		

<p>152. Authentic tasks, the sources of authentic learning experiences, provide a <u>relevance</u> to the students' <u>daily lives</u> as well as <u>professional</u> lives and thus <u>create stimulation</u> for the students in <u>developing</u> the related <u>competencies</u> (Zohoorian, 2015).</p>		
<p>153. In an authentic learning situation, the <u>suitability</u> of the <u>materials</u> for <u>learners' interest, goals, needs</u>, and even age is a key factor. Tasks must include the <u>integration</u> of learners' <u>past</u> and <u>new knowledge</u> through <u>communicative</u> and <u>cognitive</u> procedures while a "<u>reciprocal</u>" <u>relationship</u> is assumed between the teacher and the learners (Zohoorian, 2015).</p>		
<p>154. The greater <u>contextual</u> information afforded by an authentic learning approach enables/requires a <u>broader interpretation</u> of <u>issues</u> and <u>solutions</u>, not achievable within a simulated project brief (Inder & Withell, 2013).</p>		
<p>155. Authentic learning situations are a safe and <u>situated</u> 'surrogate' for '<u>real-world</u>' learning <u>experiences</u> (Zualkernan, 2004).</p>		
<p>156. Jonassen <i>et al.</i> (2008) contend that authentic learning exists in stark contrast to traditional classroom learning where, often for the sake of time, ideas and concepts are frequently extracted from their <u>original, real-world contexts</u></p>		

<p>and presented to the learners as <u>isolated</u> facts to be <u>memorized</u>.</p>		
<p>157. Authentic learning experiences ... are situations that allow a learner to <u>create</u> their own <u>personal knowledge</u> in a particular task <u>environment</u> (Zualkernan, 2004).</p>		
<p>158. Authentic learning is a key concept in <u>constructivist theory</u> because authentic learning methods/environments help accomplish the monumental task of <u>connecting new knowledge</u> to <u>existing knowledge</u> by encouraging students to make direct <u>connections</u> between their new learning and the <u>real world</u> in which they live (Carlson, Mims in https://enwikibooks.org/wiki/Constructivism_%26_Technology/Authentic_Learning, 2009).</p>		
<p>159. Authentic approach of learning differs greatly from traditional “lecture” classes, where teachers give students information and content of a subject discipline that students are expected to <u>memorize</u> and <u>repeat</u> on tests. It promotes <u>understanding</u> through <u>discovery</u> and <u>doing</u> (Har, 2005).</p>		
<p>160. Authentic learning takes place when <u>solving real problems</u> in the complexity of <u>reality</u>. It occurs when our <u>doing</u> emulates consciously that of the <u>experts</u> in the field, when we use their tools, <u>content knowledge</u>, and <u>skills</u>, and when we <u>solve problems</u> and face situations that reflect the</p>		

actual <u>professional values</u> and <u>practices</u> of the <u>field</u> (Ojeda-Ayala, 2011).		
161. It is built upon <u>collaboration</u> and <u>reflection</u> within a <u>community of practice</u> (Ojeda-Ayala, 2011).		