The Limitations Impacting Teachers' Understanding of Creative Thinking

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Abstract

With creative thinking being the new educational buzzword due to its inclusion in numerous curriculum rewrites around the world, one has to wonder how educators are adjusting to its inclusion. There is substantial research outlining the barriers that inhibit the teaching of creative thinking in the classroom. This article evaluates this topical research identifying the limitations impacting teachers' understanding of creative thinking. It includes the limitations of no consensus amongst a variety of creativity terms, the restrictions teachers place on themselves and those that are placed on them, and syllabus boundaries. This review paper also analyzes this research in respect to teachers' teaching philosophy and makes recommendations on the next steps.

Keywords

1. Introduction

As creative thinking becomes the catch phrase of the 21st century due to its inclusion in many revised curriculums around the world, teachers everywhere are scratching their heads in wonder about what this catch phrase actually means for them (Turner, 2013: p. 23). With new buzzwords being consistently added to revised curriculums, teachers are struggling to know what is truly important in making a child a lifelong learner. Australian research (Cropley, 2001: p. 159) exposed that three-quarters of new graduates had been deemed unemployable by employers due to their creative thinking skills being insufficient. With graduate unemployment numbers high and universities pumping out more graduates every year, it is not surprising that more countries around the world are looking at including creative thinking skills within their curriculums.

There is an array of literature published that discusses the concept of creative thinking, ranging from its implementation in a variety of disciplines to educators' attitudes towards creativity. Despite all of this creativity li-

terature, there is a limited amount of research that focuses primarily on teachers' understanding of creative thinking within the discipline of education and how strategies for implementation can be difficult. Therefore, this review article looks at that range of literature, which discusses teachers' attitudes and beliefs around creativity, to understand the limitations that are impacting teachers' understanding of creative thinking. This review tends to support authorities and policy makers to take the next step with educators to ensure that employers do not deem another generation unemployable.

This review article outlines three main limitations impacting teachers' understanding of creative thinking. The first limitation is that there is no consensus around the term creative thinking. The revised literature all vary in their definition of creativity, whether it can be developed and the models can be used to teach creative thinking. The next limitation that is to be considered is teachers. Teachers have a tendency to consistently judge themselves, which creates a self-limitation. Furthermore, the small amount of education that teachers receive in thinking skills also adds to this limitation. The third limitation is the syllabus itself. Syllabus constraints, pedagogy and the way educators assess students all hinder teachers' understanding of creative thinking. Finally, this review article discusses these three limitations within the scope of a teacher's teaching philosophy.

2. No Consensus

One of the biggest limitations to teachers' understanding of creative thinking is the disparity between some of the core elements of creative thinking. Theorists continue to argue about the precise definition of creative thinking, whether people are born with the gift of creativity or if it can be developed and also the variety of models used to teach it.

2.1. Definition

There is a global trend amongst theorists to create their own definition of creative thinking. Literature states (Al-Nouh, Abdul-Kareem, & Taqi, 2014: p. 74; Bronson & Merryman, 2010: p. 1; de Souza Fleith, 2000: p. 148; Turner, 2013: p. 24) that this is one of the main reasons teachers find creativity so hard to understand, let alone teach, as there is such a discrepancy between each of the definitions. After reviewing definitions, the main elements in all of them include the concept of creating something new or original that is designed for a purpose (Al-Nouh et al., 2014: p. 74; Bronson & Merryman, 2010: p. 1; de Souza Fleith, 2000: p. 148; Turner, 2013: p. 24). However, the terms within these definitions could also be considered confusing. To whom does the thought or idea need to be new or original to, the child or the teacher (Turner, 2013: p. 25)? To make teachers more confident in their approach to teaching creative thinking a more concise definition needs to be clarified. Due to the definition being so confusing, teachers are struggling to find their personal understanding on this thinking skill.

2.2. Rare Gift or Developed

There are many who write and study creative thinking who disagree on whether it is a skill people are born with or a skill that can be developed (Aljughaiman & Mowrer-Reynolds, 2005: p. 27; Cachia & Ferrari, 2010: p. 23; Diakidoy & Kanari, 1999: p. 225; Fryer & Collings, 1991: p. 208; Lin, 2011: p. 150). This disagreement once again causes confusion for teachers. If it is a gift, how can they teach it? Diakidoy and Kanari (1999: p. 225) and Fryer and Collings (1991, p.208) found that a majority of teachers see creativity as a genius skill that is only evident in artistic subjects. If students are only naturally creative in the arts domain then teachers will find developing these skillsin other areas quite challenging. It is believed that many teachers see the term *creativity*and associate it with being artistic rather than the intended definition of original and purposeful ideas. Despite this, the majority of literature and the position that this article takes is that creative thinking can be developed across a variety of domains and students. Lin (2011, p. 151) and Cachia and Ferrari (2010: p. 24) both state that the perception of creativity has shifted over time and currently more teachers believe that creativity is multi-dimensional and can be developed, rather than being an inherited talent. If teachers truly believed that it was something that could not be developed, then how would creative thinking fit into their teaching philosophy?

2.3. Models

With the introduction of creative thinking as a specific taught skill in many curriculums, a variety of models are suggested for educators to use. *Bloom's Taxonomy* 1956, De Bono's *Six Thinking Hats* 1985 and Marzano's

Dimensions of Thinking 1988 are all models which schools use to teach the variety of thinking skills that are specified in the various curriculums (McIlvenny, 2013: p. 18). However, with many schools being on tight budgets, local authorities rely on teaching these models to teachers by blending them together and not specifying which model is for which style of thinking, creative or critical. Further to this, there is limited guidance given as to whether these models should be used as a cognitive skill and process within a subject area or taught across domains (Jones, 2008: p. 310). Due to such a wide variety and mix of models, teachers are understandably confused on how to line them up and use them accurately and efficiently. With such confusion about which model to use, teachers are struggling to include a model within their teaching, as well as, their personal philosophy.

3. Teacher

Another major limitation to teachers' understanding of creative thinking is the teachers themselves. Teachers not only create their own self-limitations but also receive minimal, if any, training on how to teach and implement creative thinking skills.

3.1. Self-Limitations

Teachers are protective of their craft and struggle to separate themselves from their profession (Craft, 1998: p. 245). This in itself creates a major hindrance to their understanding of creative thinking. Teachers take great ownership in what and how they teach, which sometimes creates a narrowing view in what they want students to create (Aljughaiman & Mowrer-Reynolds, 2005: p. 29). If teachers go in with an idea of what they want their students to achieve, and use that vision to assess what the student has created, then they are limiting the creativity that is happening within the classroom. Further to this, if teachers do not have a self belief about the creativity process then it is a teacher's own beliefs about the importance of promoting student creativity that is hindering the creative process (Baysal, Arkan, & Yıldırım, 2010: p. 4251; Beghetto, 2006: p. 151). Additionally, teachers have very little self-confidence when it comes to teaching creative thinking skills (Fryer & Collings, 1991: p. 218). This could be because they are unsure of the definition, doubtful of what is involved or afraid to take risks with the curriculum as it could lead to judgment by peers and authoritative figures (Al-Nouh et al., 2014: p. 87; Craft, 1998: p. 249). These self-limitations are clouding teachers' own judgments about the creative process and cementing them into practice.

3.2. Education

With national curriculums now asking for teachers to include the teaching of creative thinking skills in the classroom, one would think that authorities need to provide better professional development for teachers. Professional development in this area has always been lacking. Most countries either do not include thinking skill-subjects in teacher training courses or authorities fail to train teachers on how to implement these skills accurately (Al-Nouh et al., 2014: p. 75). Most professional development in this area is completed as an ad hoc approach or by teachers who simply have an interest in the area (McIlvenny, 2013: p. 18). This could be one of the reasons teachers lack the knowledge and understanding of creative thinking. Now that it is becoming more of a curriculum focus it also needs to become a curriculum priority within schools. Further to this, with curriculums and expectations changing all the time, it is up to the local authorities to make sure that teacher training is up to date and that they are implementing the changes and new expectations (Cachia & Ferrari, 2010: p. 47; Fullan, 2007: p. 34). This education is very important, as the success of creative thinking will ultimately come down to the way teachers teach and facilitate the creative process in the classroom.

4. Syllabus

An additional factor impacting teachers' understanding of creative thinking is the constraints placed on them by the syllabus. Even though many new syllabi include creative thinking as a skill that needs to be taught, many authorities limit the funding, time or resources that are needed to effectively teach this skill. Further to this, the style of teaching and testing that we are currently using impedes this creative thinking skill.

4.1. Prescribed Material

Some of the biggest complaints teachers make are that the curriculum is overloaded, they do not have enough

time to teach everything and their resources are not up to an adequate standard. Teachers on a daily basis are being overwhelmed by the expectations placed on them (Al-Nouh et al., 2014: p. 75; Bronson & Merryman, 2010: p. 3). So when they find an area in which they are not confident in, they will do anything not to teach it. This not only eliminates the content that they are unsure of but also saves them planning and teaching time (Al-Nouh et al., 2014: p. 80; Turner, 2013: p. 26). Further to this, due to teachers finding the concept difficult they find that it takes them longer to plan. Hence, they choose not to include these thinking skills within their teaching (Jones, 2008: p. 317). Additionally, teachers who seem confident in teaching these skills say that they have little time in their timetable to actually include the content within the day. Teachers are constantly feeling the pressure placed on them by national curriculums and expectations (Jones, 2008: p. 317). Finally, teachers who have the time and understanding to implement these creative thinking skills, state that they are being let down by local authorities as they have limited resources supplied to them. Teachers lack workbooks and program materials to get the job done effectively (McIlvenny, 2013: p. 20). All of these limitations are placing a greater impact on teachers and their understanding of creative thinking.

4.2. Pedagogy

The formal education system in most first world countries was derived from the Industrial Revolution in the middle of the eighteenth century and has only been slightly altered since then. Modern society follows a pyramid-like structure of compulsory education, which then could lead to tertiary education. Additionally, industrial processes such as compliance are followed and if students do not meet certain requirements then they are deemed non-compliant. This compliance does not necessarily mean behaviour. It can also mean the type of questioning that students ask and the way they exercise their creativity (Robinson & Aronica, 2015: pp. 31-36). With such strict and traditional teaching styles it is not surprising that we are struggling to fit in new content that is deemed necessary for students of the twenty-first century but also new ways of thinking. This struggle is seen as one of the greatest obstacles to implementing creative thinking (Al-Nouh et al., 2014: p. 87). Education is not a linear process but an organic one (Robinson & Aronica, 2015: p. 41) and the sooner this is understood by governments, the sooner teachers can start implementing pedagogy that is suited to the students of this century. Great pedagogy is the single most important factor to improved outcomes (Robinson & Aronica, 2015: p. 100), yet governments continue to deny teachers quality professional development and time to improve their practice. Furthermore, new curriculums that are being produced are now not only including these new thinking styles but are also asking for them to be implemented across all curriculum areas (McIlvenny, 2013: p. 18). Therefore, teachers need to implement new pedagogy in which that they may not have experience or training in executing.

4.3. Testing

With the mass education still working in the Industrial Revolution, when it was first designed, so are the majority of ways we assess students (Robinson & Aronica, 2015: p. 33). With a high emphasis on improved data and school rankings, it is not surprising that teachers are feeling the pressure to teach to the test and focus on memorising and rote-learning (Al-Nouh et al., 2014: p. 75; Sternberg, 2003: p. 325). Even though an educator's primary role is to provide students with the skills to become lifelong learners, policy makers continue to assess students by concentrating on passing formal grades (Al-Nouh et al., 2014: p. 76). It is not surprising then that teachers focus on the formal assessment items rather than teaching them a variety of thinking skills. What policy makers are starting to understand, with the inclusion of them in new curriculum documents, is that an increased emphasis on thinking skills tends to lead to higher results both formally and informally (Jones, 2010: p. 69; Smith & Szymanski, 2013: p. 17). Therefore, with a change in curriculum there should also come a need for change with the way we assess students. If teachers are being more open-minded with the way they teach and their expectations, then why are we still relying on standardised tests (Robinson & Aronica, 2015: p. 24)? Sir Ken Robinson (2015, p. 169) states that a change of assessment tasks comes down to a change in culture from not only policy makers but also from schools. With tests limiting teachers' abilities to implement creative thinking, it is not surprising that this culture is not being changed.

5. Discussion

Sir Ken Robinson (2006, February) states that, "Creativity is as important now in education as literacy and we

should treat it with the same status." However for this change in status to occur, it is believed that more policy makers need to discuss and make alterations to the significance of creativity and more importantly, teachers need to begin to embed this thinking skill not only in their teaching, but also in their teaching philosophy.

Policy makers and local authorities have the power to reduce the impact of the majority of the limitations outlined to make teachers' understanding of creative thinking clearer. The bulk of teachers love to learn and by giving them formal creative thinking training prior to entering the classroom and in-depth training whilst they are in the classroom, may alleviate some of their concerns (de Souza Fleith, 2000: p. 152). This additional formal training might also give them the confidence they desire to take the risks that come with teaching with embedded creativity. Further to this, local authorities need to remove the judgments placed on teachers whilst a whole school creativity culture is being achieved. By lowering those barriers, teachers will have the freedom and time to set these techniques in an appropriate context and follow through with any additional assistance they might need without the fear of being arbitrated (Higgins & Reeves, 2006: p. 241). Embedding creativity effectively and promptly is in all of our future interests.

Teachers are continually adapting their teaching philosophy to the changing times but on review of many different teaching philosophies two prominent themes stand out: wanting students to be lifelong learners and wanting students to love learning. With this in mind, teachers need to change their approach to their philosophies to assist them in understanding creative thinking. With many teachers coming to the classroom with preconceived ideas about creativity and the need to only include it due to a governing body stating so, teachers need to open their minds to the possibility of what creative thinking can offer to their students (Beghetto, 2006: p. 151). Teachers making the conscious effort to include this concept in their underlying practice will help provide students with the essential skills to be able to adapt and problem solve, plus continue to foster the love of lifelong learning.

6. Conclusion

In summary, this review article has discussed the limitations impacting teachers' understanding of creative thinking. These limitations include the confusion surrounding the definition of creative thinking, whether creativity can be developed and the models can be used to teach the skill. Further to this, the article considered the self-limitations that teachers place on themselves in respect to creative thinking and the minimal education they receive in learning how to teach the skill. Additionally, the article examined the limitations place on education by the syllabus, pedagogy and testing. Finally, all of these elements were brought together in the discussion where they were considered in conjunction with teachers' teaching philosophies. Despite these limitations, research proves that teachers have a strong desire to include creative thinking within the classroom. It is just unfortunate that the system is standing in the way of them doing so.

Acknowledgements

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