

roots

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Children's Gardens

Through the eyes of children:
designing for a new
generation of visitors

Access all areas: clearing
pathways to learning

El Bosque de los Niños

Bridging the generation gap –
developing play spaces for
children



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Child's eye view:
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perspectives on
botanic gardens
in the modern
world



Gardens are beginning to realise the potential of engaging younger audiences

ENGLISH

It's a challenge facing botanic gardens everywhere: how can they broaden their visitor demographics and develop more meaningful relationships with their host communities? One approach, adopted by gardens worldwide, has been to shift the emphasis towards children and families – and in this latest issue of *Roots* we explore how some of them are addressing these existential questions of demographic and community relevance.

FRANÇAIS

Partout, les jardins botaniques se confrontent au même défi : comment élargir les données démographiques de leur public et développer des liens plus constructifs avec les communautés qui les accueillent ? Une approche adoptée par les jardins à travers le monde consiste à se tourner davantage vers les enfants et les familles. Dans ce dernier numéro de *Roots*, nous nous attachons à découvrir la manière dont certains d'entre eux abordent ces questions existentielles relatives à l'importance démographique et communautaire.

ESPAÑOL

Los jardines botánicos enfrentan un reto en todo el mundo: considerando la demografía de sus visitantes ¿cómo ampliar y desarrollar relaciones más significativas con la comunidad que los acoge? Un enfoque adoptado por los jardines de todo el mundo ha sido orientar el énfasis hacia los niños y las familias, y en esta última edición de *Roots* exploramos cómo algunos de ellos están direccionando estas cuestiones existenciales de las características demográficas y la relación con la comunidad.

Historically botanic gardens have not looked with favour on children and young people – indeed such 19th century attitudes persevered in many British gardens well into the middle of the last century. Gardens were slow to appreciate the untapped potential of this element of the population, although rare exceptions like Brooklyn Botanic Garden were welcoming young visitors as far back as the early 1900s. The pace has picked up over the last couple of decades, however, and there is now much greater focus on making botanic gardens more child and family friendly. One illustration is the Royal Horticultural Society's garden at Wisley in the UK, where seasonal activities are programmed to encourage families to explore different parts of the garden. And the garden's 'Wild at Wisley' is an area set aside for natural play.

The emergence of dedicated 'children's gardens', designed to reconnect our largely urbanised children with nature and provide safe environments for outdoor and natural play has been a key development of this child-centered approach. To date there has been no uniformly accepted definition of what a children's garden is and different interpretations have appeared, reflecting the particular cultures and circumstances of individual gardens. Far from being a weakness, however, such diversity only enhances the strength of the concept, drawing as it does from a deep pool of intellectual and cultural inspiration.

It is in this spirit, therefore, that we encourage our readers to engage with the notion of what children's gardens are, rather than aim for a reductive interpretation of what a children's garden is.

In our first article, Sue Wake, of Unitec Institute of Technology in New Zealand offers an academic insight into children's gardens. Sue argues that children can engage from the outset in a garden's development, with varying levels of involvement.

Creating a space for children in a botanic garden may benefit the organisation in many ways, writes Kathy Johnson, Manager of Teacher and Student Program at Chicago Botanic Garden, although the design process is not an

Historiquement, les jardins botaniques n'ont jamais été très partisans de la présence d'enfants ou de jeunes ; cette attitude propre au XIXe siècle s'est en effet maintenue dans de nombreux jardins britanniques au moins jusqu'au milieu du siècle dernier. A de rares exceptions près, telles que le Jardin botanique de Brooklyn qui s'est tourné vers l'accueil du jeune public dès le début des années 1900, les jardins s'en sont tenus à cette règle et ont mis du temps à apprécier le potentiel inexploité de cette partie de la population. Le rythme s'est toutefois accéléré durant ces deux dernières décennies, et la valorisation de jardins mieux adaptés à l'accueil des enfants et des familles est à présent bien plus grande. Le jardin de la Société royale horticole de Wisley, au Royaume-Uni, illustre ce propos par la programmation d'activités saisonnières afin d'encourager les familles à explorer différentes parties du jardin. Et la zone du jardin dénommée « le Wisley sauvage » se trouve à l'écart, afin de favoriser les jeux dans la nature.

L'émergence de « jardins pour enfants » consacrés en tant que tels, conçus pour recréer une connexion entre nos enfants trop urbanisés et la nature, et pour offrir des lieux sécurisés pour les jeux en extérieur et dans la nature, représente un élément clé du développement de cette approche axée sur l'enfant. À ce jour, aucune définition n'a été acceptée de manière uniforme concernant le jardin des enfants et plusieurs interprétations ont été suggérées, reflétant les cultures et les circonstances particulières à chaque jardin individuel. Loin d'être une faiblesse, cependant, une telle diversité ne fait qu'accroître la solidité de ce concept, tirant ainsi son inspiration d'une large variété intellectuelle et culturelle.

C'est dans cet esprit que nous encourageons donc nos lecteurs à prendre en compte la notion de ce que sont les jardins des enfants, au lieu de rechercher une interprétation réductrice de ce qu'est un jardin des enfants.

Dans notre premier article, Sue Wake, de l'Institut de technologie Unitec en Nouvelle-Zélande, propose un aperçu universitaire sur les jardins des enfants. Sue affirme que les enfants peuvent s'engager dès le début dans l'aménagement d'un jardin, avec différents degrés de participation.

Históricamente, los jardines botánicos no habían favorecido a los niños y jóvenes, es más, esta actitud del siglo XIX prevaleció en los jardines británicos hasta mediados del siglo pasado. Con raras excepciones como el Jardín Botánico de Brooklyn, quien dio la bienvenida a los visitantes jóvenes desde los inicios de 1900, evidenció que en general, los jardines lentamente fueron apreciando el potencial no explotado de este grupo de la población.

Esto marcó el paso en las últimas dos décadas, no obstante, los jardines botánicos aún tienen mucho que hacer para ser más amigables con los niños y las familias. Un ejemplo es el de la Real Sociedad de Horticultura del Jardín en Wisley en el Reino Unido el cual programa actividades estacionales para alentar a las familias a explorar diferentes partes del jardín. En el jardín, "Silvestre en Wisley" es un área reservada para el juego natural.

Los "jardines dedicados a los niños" que han surgido para reconectar con la naturaleza a nuestros niños altamente urbanizados, y diseñados para proporcionarles ambientes seguros para el juego natural, al aire libre, han sido claves en el desarrollo de este enfoque centrado en la niñez. A la fecha, no existe una definición uniformemente aceptada sobre lo que es un jardín para niños y han aparecido diferentes interpretaciones de éstos, reflejando las circunstancias culturales muy particulares de cada jardín. Sin embargo, lejos de ser una debilidad, esta diversidad sólo realza y fortalece el concepto, dibujando en sí una profunda fuente de inspiración intelectual y cultural.

Por lo tanto, es con este espíritu que nosotros animamos a nuestros lectores a compenetrarse con la noción de qué es un jardín para niños.

En nuestro primer artículo, Sue Wake, del Instituto Unitec de Tecnología en Nueva Zelanda presenta una mirada académica hacia los jardines para niños. Sue argumenta que los niños pueden involucrarse desde el principio del desarrollo del jardín con diferentes niveles de participación.

easy task. Kathy outlines some of the challenges that arise when different experts are involved in the design process (e.g. educators, exhibit developers, landscape designers, horticulturalists) and offers some useful thoughts on how to ensure equal consideration of plants and people in the overall plan.

Thrive is a UK-based charity that advocates gardening as a means of enhancing the lives of disabled people. Thrive's Becky Pinniger comes up with a range of practical suggestions for modifying garden designs to improve site accessibility. She also explains how different garden features may be used to benefit children with special education or disability needs.

The Ian Potter Foundation Children's Garden at the Royal Botanic Gardens in Melbourne, is designed to 'celebrate the imagination and foster the creative nature of play'. Christine Joy and Roslyn Semler, Melbourne's education staff, describe how this inspirational garden has involved children, adult visitors and experts in its development.

Last year the Atlantic Botanic Garden at Gijón in Spain opened its Children's Forest, a new area dedicated to young audiences and their families. In this Spanish article, Reyes Álvarez Vergel, describes how the Children's Forest encourages its young visitors to feel part of nature and directly interact with it.

For the newly established Oman Botanic Garden, incorporating children's areas in the initial design was an important consideration, reflecting the demographic profile of this young nation. Family groups are a key target audience. Oman's Sara Kneebone, a BGCI alumnus, outlines how they generated a design brief for the garden's creative play using research, audience input, steering team discussions and expert contributions.

Closer to home, BGCI's Claudia Bernardini reviews the current literature on the exploitation of outdoor spaces to create opportunities for children's play. She uncovers some useful tips on how to make botanic gardens come alive and become more attractive, instructive and fun for young people.

a création d'un espace pour les enfants dans un jardin botanique peut être bénéfique pour celui-ci de bien des manières, écrit Kathy Johnson, directrice des Programmes pour professeurs et étudiants au Jardin botanique de Chicago, bien que la phase de conception ne soit pas une tâche facile. Kathy décrit certaines problématiques susceptibles d'apparaître lorsque différents experts sont impliqués dans la phase de conception (par exemple animateurs, concepteurs d'exposition, paysagistes, horticulteurs) et propose une réflexion utile quant à la manière d'assurer une prise en compte égale des plantes et des individus dans le plan général.

Thrive est une organisation caritative basée au Royaume-Uni qui préconise le jardinage comme moyen d'amélioration de la vie des personnes handicapées. Becky Pinniger, membre de Thrive, présente différentes propositions pratiques pour apporter des modifications à la conception de jardins afin d'améliorer l'accessibilité aux sites. Elle explique également comment différentes caractéristiques des jardins peuvent être mises à profit pour faciliter l'accueil d'enfants présentant des besoins par rapport à un handicap ou en termes d'éducation spécialisée.

Le Jardin des enfants de la Fondation Ian Potter aux Jardins botaniques royaux de Melbourne est conçu pour « célébrer l'imagination et encourager la nature créative du jeu ». Christine Joy et Roslyn Semler, animatrices aux jardins de Melbourne, décrivent comment ce jardin inspirateur a suscité l'implication d'enfants, de visiteurs adultes et d'experts au cours de son aménagement.

L'an dernier, le Jardin botanique atlantique de Gijón, en Espagne, a inauguré sa Forêt des enfants, nouvel espace consacré au jeune public et à leurs familles. Dans cet article en espagnol, Reyes Álvarez Vergel décrit comment la Forêt des enfants invite ses jeunes visiteurs à se sentir une partie intégrante de la nature et à interagir directement avec elle.

Pour le Jardin botanique d'Oman récemment établi, l'intégration d'espaces pour les enfants dans la conception initiale a suscité une longue réflexion, illustrant le profil démographique de cette jeune nation. Les groupes familiaux représentent un public cible clé. Sara Kneebone du Jardin d'Oman, ancienne élève du BGCI,

Crear espacios para niños en un jardín botánico puede beneficiar a la institución en muchos sentidos, escribe Kathy Johnson, Directora de los Programas para docentes y estudiantes, del Jardín Botánico de Chicago, aunque el proceso de su diseño no es una tarea fácil. Kathy resalta que algunos de los retos surgen cuando expertos de diferentes disciplinas están involucrados en el proceso del diseño, (por ejemplo educadores, los que desarrollan las colecciones, diseñadores del paisaje, horticultores) y presenta algunas ideas útiles para asegurar una consideración equilibrada de las plantas y las personas en el proyecto global.

Thrive es una institución de beneficencia del Reino Unido que defiende la jardinería como un medio para mejorar la vida de las personas con discapacidad. Becky Pinniger presenta un amplio rango de sugerencias prácticas para modificar el diseño de jardines para mejorar el acceso al sitio. También explica cómo las diferentes características del jardín pueden utilizarse en beneficio de los niños que requieren educación especial o con discapacidades.

La Fundación del Jardín para Niños Ian Potter en el Real Jardín Botánico de Melbourne, se ha diseñado para "celebrar la imaginación y fomentar la naturaleza creativa del jugar". Christine Joy y Roslyn Semler, personal de educación del Jardín de Melbourne, describen cómo este jardín para su inspiración ha involucrado niños, visitantes adultos y expertos en su desarrollo.

El año pasado, el Jardín Botánico del Atlántico en Gijón, España, abrió su Bosque para Niños, una nueva área dedicada a las audiencias jóvenes y sus familias. En este artículo en español, Reyes Álvarez Vergel describe cómo el Bosque para Niños fomenta en los jóvenes visitantes el sentimiento de ser parte de la naturaleza interactuando directamente con ésta.

Para el recientemente establecido Jardín Botánico de Oman, la incorporación de áreas para niños en el diseño original fue una consideración importante como respuesta al perfil demográfico de esta joven nación. Los grupos familiares constituyen un grupo meta clave. Desde el Jardín de Oman, Sara Kneebone,



*Encouraging play is essential in a children's garden
(RBG Melbourne, Australia)*

We hope you will find plenty to inspire you in the following pages. You'll see that there are many different ways of developing children's areas in botanic gardens – from dedicating spaces for them to release their energy through play and exercise, to more inclusive approaches that encourage exploration and engagement by children throughout the whole garden.

And finally, as we go to press, the first of BGCI's two signature education programmes gets underway. The International Diploma Course in Botanic Garden Education organised in collaboration with the Royal Botanic Gardens, Kew, is welcoming 11 students from around the world to spend five weeks learning a range of educational skills and strategies to communicate and engage with their varied audiences. And then in November, BGCI's 8th International Congress on Education in Botanic Gardens will be hosted by our colleagues in UNAM Botanic Garden, Mexico City. The congress website is now live - www.educationcongressmex.unam.mx - and to those of you who are able to come we look forward to seeing you there.

Asimina Vergou

décrit comment ils ont élaboré des directives de conception pour les jeux créatifs du jardin en s'appuyant sur la recherche, la consultation du public, les discussions de l'équipe de pilotage et la contribution d'experts.

Plus près de chez nous, Claudia Bernardini du BGCI analyse la littérature actuelle concernant l'exploitation d'espaces en extérieur visant à créer des opportunités en matière de jeu d'enfants. Elle révèle des conseils utiles sur la manière de donner vie aux jardins botaniques et de les rendre plus attractifs, instructifs et divertissants pour le jeune public.

Nous espérons que vous trouverez de quoi vous inspirer au fil des pages qui suivent. Vous découvrirez qu'il existe bien des façons d'aménager des espaces pour les enfants dans un jardin botanique, allant de lieux propices à dépenser leur énergie par le jeu et l'exercice, à des approches plus complètes qui encouragent l'exploration et l'implication des enfants à travers tout le jardin.

Et enfin, alors que nous mettons sous presse, la première des deux signatures des programmes d'éducation du BGCI débute. Le cours du Diplôme International d'éducation dans les jardins botaniques, organisé en collaboration avec les Jardins botaniques Royaux, Kew, accueille 11 étudiants du monde entier pour passer cinq semaines pour apprendre diverses techniques d'éducation, de stratégies pour communiquer et comment s'engager avec leurs différents publics. Sinon, en novembre, le 8ème congrès international du BGCI sur l'éducation dans les jardins botaniques sera organisé par nos collègues au Jardin botanique UNAM, à Mexico. Le site Internet du congrès est maintenant en service : www.educationcongressmex.unam.mx - Et nous serons heureux de retrouver ceux qui pourront y participer.

quien fue formada en BGCI, señala cómo generaron un manual de diseño para el área de juego creativo a través de investigación, aportaciones de la audiencia, discusiones grupales dirigidas y contribuciones de los expertos.

Cerca de casa, Claudia Bernardini hace una revisión bibliográfica actualizada sobre el aprovechamiento de los espacios al aire libre para crear oportunidades para el juego de los niños. Ella descubre algunos consejos útiles para darle vida a los jardines botánicos de modo que sean más atractivos, instructivos y divertidos para la gente joven.

Esperamos que en las siguientes páginas encuentren abundante inspiración. Verán que hay muchas maneras diferentes para desarrollar áreas para niños en los jardines botánicos –desde dedicar espacios para que los niños liberen energía a través del juego, hasta enfoques más incluyentes que promueven la exploración y el involucramiento de los niños a lo largo de todo el jardín.

Y finalmente, ya que vamos a la prensa, hay dos programas de educación del BGCI que se ponen en marcha. El Curso de Diploma Internacional en la Educación de Jardines Botánicos organizado en colaboración con los Jardines Botánicos Reales, Kew, dando la bienvenida a 11 estudiantes de varias partes del mundo quienes estarán cinco semanas aprendiendo una variedad de destrezas educativas y estrategias referentes a cómo comunicarse efectivamente y atraer a sus variadas audiencias. Posteriormente en noviembre, el 8vo Congreso Internacional del BGCI de Educación en Jardines Botánicos tendrá sede en el Jardín Botánico UNAM, Ciudad de México, gracias al apoyo de nuestros colegas de dicha Institución, información completa se puede obtener del sitio web - www.educationcongressmex.unam.mx - a todos ustedes que tengan la oportunidad de asistir tendremos mucho gusto de verles allí.

Through the eyes of children

Designing for a new generation of visitors

Encouraging children into the world of plants and engaging them in a child-friendly environment that stimulates learning through fun is potentially hugely beneficial for the planet, writes **Sue Wake** of Auckland's Unitec Institute of Technology. It also improves the health and well-being of its human population. So how can this be achieved?



Children's gardens have the potential to help children build positive experiences and associations with nature (Sue Wake)

The concept of the children's garden seems to have first emerged in the USA – for example an indoor children's garden was created around 1987 at Longwood Gardens, as a result of graduate research by Catherine Eberbach. Jane Taylor designed and championed the Michigan 4-H Children's Garden that opened in 1993, the same year as the inaugural (and still running) American Horticultural Society (AHS) National Children and Youth Garden Symposium. In conjunction with this the AHS constructed a series of simple gardens, some designed by school groups.

In the symposium proceedings Taylor (1994) lists some design tips that came out of research with pre-school children on what is important to them in a garden (Whiren 1995). Other gardens have been more or less informed by children's actual ideas, although sometimes they seem entirely the product of adult imaginations and vast budgets. Some gardens use larger-than-life, hands-on models for impact when demonstrating processes such as pollination or seed dispersal, but these are expensive to construct and maintain and sometimes garishly unrealistic. While it is important that the garden encourages learning, there are many better and more subtly experiential ways to do it than by altering the scale, colours and materials of nature. For example, the rustic board-walk through the 'Bog Garden' at the Auckland Botanic Gardens has a section of boards that 'sink' when trodden on.

Hands-on learning

Some gardens have incorporated sculpture, with the idea that children will see and appreciate art, even if they are not allowed to touch. However, I recommend when designing a children's garden that nothing should be included that isn't part of a hands-on learning experience (including signs if possible). Children are tactile learners and in order to appeal to a wide age range, layering of activities is important. Young children (pre-school) learn through play, so the garden needs to incorporate plenty of opportunity for this – not just exhibits with interpretive signs aimed at reading-aged children with a longer attention span, or untouchable/unreachable art. Budgets are always limited so everything needs to be considered on the basis of

how multi-functional and multi-level it is. The aesthetic element of the garden is for the benefit of adults, not children, who are more interested in what they can move, feel, climb, hear, taste, watch and so on. We'll return to this later.

Going back to the idea of children's input, even gardens that invite children's opinions and input about what they would like are still 'gardens for children' rather than 'gardens by children' (Wake 2008). Hart's 'ladder of participation' (1997) was seminal in identifying degrees of children's involvement and autonomy in decision-making about matters affecting them, following on from the drafting and widespread ratification of the United Nations Convention on the Rights of the Child (UNHCHR 1989). Notable about his ladder is the identification of the bottom three rungs as 'non-participation' (including manipulation, decoration and tokenism), while the higher levels are distinguished by 'shared decision-making' with adults. However, a weakness of that metaphor is people thinking that the top rung is the ultimate goal when this is not possible or even appropriate in every situation. Driskell's (2002) graph maps participation as represented by increasing community interaction on the X axis and increasing decision-making by children on the Y axis – the goal being collaborative decision-making with adults.

A sense of ownership

In theory it is a wonderful idea to involve children in the design of their own gardens. Putting this into practice is a lot harder, but where better to try it than in a botanic garden which already has such a strong educational mandate? By avoiding such token gestures as involving children only to perform at the opening for the pleasure of visiting dignitaries, and instead planning ahead to actively involve children in its design (e.g. through partnership with a local school), provides an opportunity to increase the educational potential of the garden. In addition to the cross-disciplinary learning that may result (teamwork, communication skills, leadership development), the process would be multi-disciplinary (e.g. encompassing numeracy, literacy, art, science) and gives children a sense of ownership of the project.



Signs need to be part of the hands-on learning experience and should appeal to a wide age range – not only those who can read (Sue Wake)

Education for sustainability (EfS) research indicates that empowering school students through an authentic project and associated decision-making that is **for** the environment (as opposed to **about** or **in** the environment) has greater potential for learning transformations, bringing about changes in attitudes and values, and possibly permanent changes in behaviour. Building on this, EfS concepts such as Action Competence (Jensen and Schnack 1997) distinguish between 'action-taking' projects for the environment as being direct, deliberate, democratic and student-led, compared to 'action' as being indirect and directed. Similarly, Significant Life Experience research (Chawla and Cushing 2007) emphasizes how important it is to ensure the genuine participation of children in environmental projects if they are to be helped to develop pro-environmental behaviour (which is surely an educational aim of botanic gardens), and highlights the importance of children working on local projects that are relevant and include some fun.

My own research points to the necessity of involving child-friendly practitioners (e.g. landscape architects) in the project and of including an excellent facilitator who has the trust of children working in the project and is able to scaffold the learning process. This could be achieved through collaboration between the school and educationalists at the botanic garden. The range of possible involvement of children is huge; for example it could include their research and ideas, working with a landscape architect to create drawings and plans, development of exhibits and interpretation, making things for the garden, helping with planting and construction, documenting the process, considering future development within the garden and possibly some care of the garden. Many schools have environmental groups and this would fit well within such a structure, and hopefully even within curriculum learning. My research shows it strengthens community relationships

and develops a long-term bond between children and place. It does not happen quickly, but things that take time and are carefully considered give greater potential for learning. A focus on process is needed.

Play gardens for all

Finally, I want to return to the idea referred to earlier about offering experiential layers for different aged children. Many children's gardens fulfil their educational mandate by offering formal programmes for visiting school groups, and informal programmes at weekends and holidays. However, the self guiding casual visitors can be the hardest to reach since the children are often pre-schoolers. Lots of exhibits I have seen are designed for older age groups – although I have also seen some wonderful opportunities, for example when water pumps and watering cans are provided and small toddlers trot back and forth watering plants.

In the past I have detected reluctance from botanic gardens to include static play equipment, presumably to avoid being thought of as simply playgrounds. Once there was a big difference, with playgrounds being stark places that banned all plants for safety reasons. This is changing and there is now common ground in that both are inviting children to have fun, healthy experiences outdoors. Also both encourage learning, since play and socialization are learning, and each has the potential to build positive experiences and associations with nature.

The resulting hybrid or 'play garden' is exemplified at Kew Gardens 'Plantastic Play'. In another play garden at 'Pirrarna Park' in Sydney, reference is made to the history of the site as a forest then a quarry in providing engaging, educational play opportunities for a wide age range. A recently completed play garden at Hobsonville Point in Auckland has a plant theme and even includes some interpretive material about seed dispersal on the giant fruit sculptures dotted through the imaginative plant-referenced play area. Children are encouraged to climb on the sculptures, which are sited within plantings of that species. Swings, stepping logs and space nets connect the plant-themed spaces.

A recent on-line article in Popsci (2012) about technology-age playgrounds features lots of plastic and metal structures that are visually very non-organic. I believe if we want to offer children a worthy alternative to computer games and mobile phone culture, we should involve them in design process to empower them through democratic ownership of the space, and take our cues from history and nature to give it relevant context and meaning. Some activities are timeless and ageless – for example my daughter at 17 still loves swings, and the spaces she swings in will be woven into her positive memories of nature and the outdoors. Why not within a children's garden?

References

- Chawla, L. & Cushing, D. F., 2007. Education for strategic environmental behaviour. *Environmental Education Research* [online], **13** (4). [Accessed 3 March 2008]
- Driskell, D., 2002. *Creating better cities with children and youth: A manual for participation*. London: UNESCO.
- Hart, R., 1997. *Children's participation: The theory and practice of involving young citizens in community development and environmental care*. London: Earthscan.
- Jensen, B. B. & Schnack, K., 1997. The action competence approach in environmental education. *Environmental Education Research* [online], **3** (2). [Accessed 25 Feb 2009]
- Popsci, 'State of Play: The world's most amazing playgrounds' [online]. Available from: www.popsci.com/technology/article/2012-01/state-play-playgrounds-tomorrow [Accessed 25 Feb 2012]
- Taylor, J. 1994. In a child's garden ... imagination grows. *American Horticulturist* (July), 24–6.
- UNHCHR, 1989. *United Nations Convention on the Rights of the Child* [online]. Available from: www2.ohchr.org/english/law/crc.htm [Accessed 2 Jan 2010]



Children are more interested in what they can feel, climb, hear, taste and watch, rather than the aesthetics of a garden (Sue Wake)

→ Wake, S. J. 2008. 'In the best interests of the child': Juggling the geography of children's gardens (between adult agendas and children's needs). *Children's Geographies*, 6(4), 423–35.

→ Whiren, A. P. 1995. Planning a garden from a child's perspective. *Children's Environments Quarterly*, 12(2), 250–5.

RÉSUMÉ

Les Jardins botaniques du 21^{ème} siècle considèrent les enfants comme des utilisateurs importants, les ayant antérieurement ignorés voire même découragés (par exemple en interdisant de faire du vélo, de courir ou de marcher sur les pelouses). Beaucoup prévoient ou ont réalisé des jardins dédiés aux enfants, ce qui est un investissement louable dans les gens et dans les plantes. Les finalités sont considérables : faire venir une nouvelle génération de visiteurs, maintenir le public existant en encourageant ceux qui en ont la charge (par exemple les parents et grands-parents), promouvoir l'apprentissage et (potentiellement) un intérêt des enfants pour les plantes, offrir l'occasion de se dépenser sainement en extérieur, informer sur l'origine de notre nourriture et éveiller un sentiment de respect et de responsabilité pour l'environnement.

En proposant aux enfants une expérience des plantes au travers d'activités ludiques et amusantes, certaines réponses sont apportées à cette « fin de l'enfance », décrite dans de nombreux écrits, tant dans la littérature académique que populaire. Cet article cite des études et des exemples de jardins, afin de faire le point sur l'apprentissage dans les jardins d'enfants, aussi bien sous l'angle du plaisir que cela apporte, que dans la participation possible à la conception du jardin lui-même. Cela facilite l'apprentissage multidisciplinaire, et enrichit les communautés par le biais de la collaboration. De plus, il suggère que la mutation actuelle des cours de récréation traditionnelles en jardins de jeux, peuvent nous enseigner des leçons sur le jeu et l'intégration sociale. Il apporte une vision nouvelle sur la mise en place d'équipements de jeux dans les jardins pour enfants, ce qui a été un sujet litigieux pour les jardins botaniques.



This play garden in Auckland has a plant theme and includes interpretation about seed dispersal on giant fruit sculptures dotted through the play area (Sue Wake)

RESUMEN

Los jardines botánicos del siglo XXI están incluyendo a los niños como usuarios, siendo que previamente eran ignorados e incluso desalentados (por ejemplo: bicicletas prohibidas, no correr, no caminar sobre el césped, etc.). Numerosos jardines están planeando construir o dedicar áreas especiales para ellos, lo cual significa una inversión recomendable para la gente y plantas. Las razones son significativas: atraer nuevas generaciones de visitantes por medio de la audiencia ya existente (padres y abuelos), motivar el aprendizaje y la apreciación [potencial] a las plantas en los niños, motivando ejercicio sano en el exterior, además de conocer de donde derivan nuestros alimentos, y finalmente inculcando un sentido conciencia medioambiental y su manejo.

Existe mucha literatura académica y popular sobre la 'desaparición de la niñez', algunas de las razones de ésta se enfocan en cómo pueden influir las experiencias que los niños tienen con las plantas a través de sus juegos y

diversiones. En este artículo se investigan y dan ejemplos para enfocar actividades educativas en los jardines infantiles, donde además de diversión, se tiene la participación potencial del diseño de los mismos jardines. Esto facilita una colaboración multidisciplinaria y de enriquecimiento en las comunidades. Además, se sugiere que lecciones de juegos e inclusión social pueden ser aprendidas con esta hibridación actual de patios de recreo dentro de los juegos del jardín, que es algo contencioso dentro de los jardines botánicos.

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Design for children

opening up nature's learning potential

Creating a dedicated space for children at a public garden can have a positive impact on revenue and attendance figures, issues of consuming interest to all gardens. Another consequence of bringing in new visitors and offering educational and leisure experiences to local families, is that the garden's profile in the community is also considerably enhanced. But, argues **Kathy Johnson** of Chicago Botanic Garden, designing a successful children's garden requires considerable expertise and planning.

Whether you call it a 'children's garden', an 'adventure playground', or any other name, creating a space aimed at children and families can be beneficial to the institution in many ways. It obviously enables the garden to serve children better by offering a facility scaled to their size, with messages tailored to their interests and developmental level. But creating a successful children's garden is no easy matter. On the contrary, it is one of the most difficult kinds of spaces to design because it requires more areas of expertise than other types of garden and there are differences of opinion about what is most important.



Children love to run through the willow tunnel at the Chicago Botanic Garden's 'Outdoor Classroom' (Chicago Botanic Garden)



The Chicago Botanic Garden's new Grunfeld Children's Growing Garden, opening in June 2012, will be a space for young visitors to practice gardening skills (Chicago Botanic Garden)

Children's gardens provide a location for multigenerational programmes, where families can learn about plants together (Chicago Botanic Garden)

Plants and people must be given equal consideration in the overall plan, so having educators, exhibit developers, and audience evaluators involved is as important as having landscape designers, horticulturists, and engineers. This naturally leads to some conflicts during the design process, for example when the landscape architects argue for aesthetics, while the programme staff advocate the needs of mothers with prams and pushchairs.

Resolving conflict

The first hurdle in the planning process is that people will have conflicting ideas about what a children's garden should or should not be. The planners must reach consensus about issues such as whether or not playground equipment belongs in the garden, and how much water,



climbing, and unfixed play items to offer. Team members are likely to express strong opinions which tend to be based on the individual's own childhood – people feel very passionate about the experiences that shaped their identities.

When disputes arise, it is helpful to address the matter directly, letting each team member express their views, but acknowledging that many kinds of experience can lead to powerful memories. Successful children's gardens

establish a balance suited to the institution. The guiding direction must be the mission of the institution, the collection it cares for, and the educational philosophy it works to. Adhering to these principles will lead to the most satisfying results.

Things to do

Everyone should agree that the single most important role of any children's garden is to provide some kind of activity for the children. Though horticulturists may cringe to hear it, the garden's popularity will be judged by how much child visitors enjoy themselves, rather than the quality of the floral display. When families arrive at the gate, the most common first question they will ask is, 'What is there for my child to do?' And

when they describe their experience to others, they will tell of what the children did in this gorgeous space. There is a variety of activities that will satisfy this need. Some – like climbing structures, tunnels to run through, and bridges to cross – are built into the design of the space. Crafts, story time, and watering activities need to be managed. Garden planners should think about what they can realistically offer with available resources. There are many 'right answers' to what will make the garden experience valuable and enjoyable for children.

As you are envisioning this garden, it is essential to think about how it will be used for different programmes. Classes of schoolchildren need room to gather, and places where a group of perhaps 25 youngsters can view certain plant

specimens to illustrate particular concepts. If gardening is part of the programme, then there should be open beds for children to plant and tend flowers and vegetables. On the other hand general public visitors will want to roam between areas at their leisure. Serving the needs of different audiences requires planning.

It is helpful to think about the garden in terms of space and time 'zones'. Mapping out locations and allocating time slots can enable planners to separate competing programmes and find an acceptable way to give priority to certain programmes when necessary.

Staffing matters

Another sticking point during the planning process concerns staffing for the children's space. There is no question that having a real live person interacting with visitors is better than just having interpretive signage. However, paying staff to be present every day is costly and using volunteers still means having paid staff to oversee them, while securing regular volunteers for weekend afternoons can be challenging, especially in holiday times. One option is to make as much of the garden self-guided as possible, and then add interpreters to enhance the experience as resources allow. Even with a low-staffing solution, the garden will still require some supervision in case of emergencies.

Planning a successful children's space requires a great many small decisions about how people will interact with the space, as well as what will grow there. If the planning team can reach a shared vision, if they can work out a plan to accommodate multiple programme and individual demands on the space, and if they can meet the need for supervision and staffing, many of the smaller details will fall into place and the resulting children's garden will satisfy visitors and staff alike.

RÉSUMÉ

Créer un espace pour les enfants dans un jardin public (que vous appelez cet espace un « jardin d'enfants » un « terrain de jeux d'aventure » ou un autre nom pour désigner son style et son



Many kinds of experiences can lead to powerful memories (Chicago Botanic Garden)



Little children have big fun digging in the soil, harvesting root vegetables in this programme at the Chicago Botanic Garden (Chicago Botanic Garden)

utilisation par les jeunes) peut être bénéfique, de diverses manières, pour l'institution. Il permet au jardin de se focaliser sur les centres d'intérêts et les besoins des enfants, il augmente les fréquentations et les recettes, et améliore l'attitude des communautés envers votre institution.

Avec de si grands bonheurs potentiels, on pourrait penser que créer un jardin d'enfants est une chose facile. Il apparaît, en fait, que ce type de jardin requière plus d'expertise que d'autres types de jardins, car il faut que les plantes et les gens soient considérés de façon égale dans le plan général, et cela conduit obligatoirement à des conflits pendant le processus de conception et de planification.

N'importe quel jardin public qui prévoit un espace pour les enfants trouvera le processus, et le jardin qui en résulte, plus efficient s'il a confronté différentes opinions sur ce que doit être et ne doit pas être le jardin d'enfants, s'il planifie une étude sur les attentes multiples au

sujet de cet espace, et s'il répond au besoin de surveillance et de personnel pour le projet, apportant une expérience sécurisée et amusante aux jeunes visiteurs.

RESUMEN

Creando espacios infantiles en un jardín público, ya sea llamado "jardín de los niños", "espacio de juego aventura" o cualquier otro nombre que sé le de y su uso por gente joven, puede ser de muy diversas maneras beneficioso para su institución. Con esto se habilita a los jardines públicos a un enfoque de los intereses y necesidades de los niños, los cuales incrementan las entradas, los ingresos y mejoran la presencia de comunidad acerca de su institución.

Con este potencial de mucha felicidad, quizás se piense que crear un jardín infantil es fácil. Este tipo de jardín requiere de áreas específicas más expertas que el tipo general de jardines, ya que en el plan general las plantas y

gentes deben considerarse igualmente que los niños, consecuentemente esto crea conflictos durante el proceso de diseño.

Cualquier jardín público planeando un espacio para los niños encontrará que el tipo de jardín resultara más exitoso si en este se toman en cuenta diferentes opiniones, a qué debe tener y a qué no debe tener o ser este espacio; se debe preparar un plan para demandas múltiples programadas; reunir las necesidades de supervisión en personal que proporcionara seguridad y experiencias divertidas a los visitantes jóvenes.

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Access all areas

clearing pathways to learning



Gardens not only bring pleasure to children with special needs, explains Thrive's **Becky Pinniger**, but they also enhance their quality of life. The key is to design gardens that enable all children to learn about gardening and wildlife and enjoy the outdoors together, whatever the nature and severity of their disability.

Thrive is a UK national charity that uses gardening to change the lives of disabled people. Our activities are varied but focus on championing the benefits of gardening to individuals and organisations, as well as teaching techniques and practical applications so that anyone with a disability can take part and enjoy gardening. At Thrive we have found that every child, however disabled, is able to benefit from gardening and being in gardens. Here are just a few comments from parents and carers:

'A's self-esteem has increased and he has a more positive attitude [since coming to Thrive]'

– parent of a 15-year-old.

'Coming to Thrive generated some excellent language and some really good interactions with peers'

– teacher of group of children with Specific Learning Difficulties (SLD).

'I have never seen L so happy or relaxed as he is here [at Thrive]'

– teaching assistant of pupil with SLD.

'I think Thrive has helped me being sensible, gaining confidence and learning about plants and wildlife'

– 16-year-old with Asperger's syndrome.

The legal definition of 'special educational needs' is applied to children who have difficulties or disabilities which make it more difficult for them to learn or access education. These can include

- general learning
- sensory impairment
- physical disabilities (can include profound, multiple learning difficulties)
- speech and language impairment
- developmental delay
- emotional difficulties
- social and communication difficulties
- autistic spectrum disorder (which may include many of the above).

We know that if children are given contact with the outside world, surrounded by nature, green grass, trees, flowers and wildlife, they will benefit. Give them space to sit, walk, run and explore and they can blossom. This positive effect of being in the natural environment is known as the 'Biophilia effect' (Wilson, 1984). And gardens and gardening have many other benefits.

For those who are able, gardens provide opportunities for physical activity. In gardens, children can learn about food values and participate in food production. Academic subjects can be taught through practical garden-related

activities. Gardens and gardening foster social interaction and communication, and provide links with the wider community. Children less suited to academic learning can achieve success with practical activities which can boost confidence and self-esteem. Gardening with children also gives the chance of encouraging independence and a sense of responsibility.

With so many potential benefits, it is obviously important to ensure a garden is accessible for children with special needs to reap them too.

What to aim for

When designing a garden to be used by children with special needs, then the specific needs of the children are the key. Is the garden for children to enjoy being in? And/or is it to be a place where children can learn to garden? Ideally, it will meet both aims.

For those with physical disabilities, possibly in a wheelchair, and/or who have sensory impairments, then it is important there is a clearly defined structure to the area. Provide distinct, wheelchair-friendly paths with smooth surfaces and gentle curves. A continuous path allows children to move

around easily and not get lost, and those with visual impairment can also follow it. Edging a path with a different texture, such as small pebbles set in concrete, can further aid navigation for the visually impaired. Using loose material on paths, such as gravel, however, is not recommended as it can be a hazard for children running. It also makes progress difficult for wheelchairs and even provides ammunition for others to throw! Using different textures on vertical surfaces can be another source of physical stimulus and assist navigation.

The minimum recommended width for a path to accommodate one person is about 750mm, 1,200mm for two people. A 900mm width is the minimum for a wheelchair. The turning circle needed for a wheelchair is 1,575mm for a manual chair and 2,420mm for one that is powered.

Creating sheltered corners, or arbours with seats, provide children with somewhere they can feel safe and calm. Children with autistic spectrum disorder may particularly appreciate safe havens like this as they can become 'overloaded' by sensory input and too much going on around them. For others, more agile and sociable, they can give places to hide and opportunities for play.

Stimulating interest

Wilder areas with shelters for wildlife, bird feeders and 'bug hotels' can offer sources of endless fascination for children. They can also help those nervous about wildlife gain confidence. At Thrive some children with attention difficulties become transfixed and still while watching birds feed. When they observe bees engrossed in flowers, they also come to realise that the bees are not interested in them.

A garden can be the perfect place to stimulate children whose horizons and experiences of the world are very limited by their physical and mental disabilities. The use of textured surfaces has already been mentioned. Providing a water feature can also enhance a garden in this way. Most children are entranced by the sound of moving water and like to touch it too. A well-designed fountain, perhaps with a falling sheet of water the children can put their hands in and which makes a gentle sound, can be very absorbing



A proud young gardener shows an unusual container which he planted with herbs (Thrive, UK)

for even the most active children, and can have a calming influence on those who are anxious.

Safety is obviously very important when considering water features for children, but there is no reason not to have one. It is also important to be aware that there are children who are hypersensitive to certain stimuli, such as sound or touch. For them, some of the visual, tactile, taste or aural effects enjoyed by others may provoke a negative response.

Children without physical disability benefit from having the room to use their energy. Provide them with space, and objects such as logs and fallen trees to

climb and explore. Children love to build camps, for which logs and space are all you need. Activities like these can result in social interaction and communication in otherwise reluctant children.

Provide other features to stimulate imaginative play – through play the foundation for all learning is laid. Some children, for whatever reason, have missed out on this vital stage, and giving them the space and freedom to play can be of enormous benefit. It doesn't matter how old they are in years, children (and adults) can enjoy play, messy or otherwise. Some children with hypersensitivity may find messy play challenging, but can sometimes be



Feeling the water. A young gardener enjoys the feel of the gentle cascade (Thrive UK)

helped to enjoy it. An area where children can dig or make mud pies, which is not ‘gardened’, provides an ideal opportunity, without anyone needing to worry about what damage is being done to the plants!

Growing gardeners

If the garden is intended to encourage children to garden in, as well as enjoy being in, then this will add to the design consideration.

Raised beds are increasingly being used by gardeners young and old alike, with or without special needs. They make access easier, especially for those with physical disabilities, or problems with balance. Children in wheelchairs can reach in and touch the soil, and sow, plant, tend and harvest, just like their able-bodied peers.

Raised beds obviously need to be next to paths to be wheelchair accessible. There are recommended heights and widths for the beds, depending on how they are to be used. Inevitably a conventional raised bed means that the wheelchair user sits sideways and has to twist round to work. An alternative is to

build a raised bed with a knee-hole. This will inevitably be shallower and limit the planting choice, but it can mean the difference between being able to garden or not, for a disabled child.

The soil in the raised beds needs to be of good quality and may need replenishing regularly. They will also need more frequent watering than conventional beds.

Raised beds can be used to grow plants for their sensory qualities, thus accessible to children confined to a wheelchair. For example, you can fill a bed at ‘touch’ height with tactile plants, such as *Sempervivum*, or those which

release a smell when touched, such as *Thymus* spp. Or fill them full of bright flowers which children can touch, pick, smell and also taste.

If a garden is to be used by children with lots of energy and no physical limitations, it’s good to provide an area where they can get down to some real hard work. Digging, mulching and harvesting can help hyperactive children use up excess energy, release tension and reduce anxiety. Children with anger problems and frustrations can find release in hard physical activity. Also, such tasks are very rewarding and they can feel a real sense of pride in a job well done and a barrow full of potatoes.

A guide to the height and width of raised beds for adults:

Needs of adults	Height of bed	Maximum width of bed with access one side only
Standing	900–1,000 mm	500 mm
Sitting	690–760 mm	500 mm
Wheelchair user	615 mm	500 mm

Note: The above measurements would need to be adjusted to make them suitable for the size of the children who are to use them

A plot of one's own

At Thrive we have found that most children love to have their own plot. The area need only consist of a small raised bed, about 1m x 1m. They are allowed to choose what they want to grow and are entirely responsible for the design. Some of the children prefer to create an ornamental plot, rather than grow things to eat. Others use their plot to encourage wildlife. They all take great pride in their own plot and working on it is usually their favourite task. Having their own growing space gives the children a feeling of responsibility and because they make all the decisions they learn some independence, which improves their self-esteem. If space is limited, then children can use containers in which to grow things – there is no limit to the imagination for plant containers, including old cans, drawers, desks, tyres, worn-out school bags and much more! All of these can add to the fun in a children's garden.

Another way to introduce a fun element is through artwork. Well-chosen, this can stimulate the senses and give the children encouragement to play with and really use features of the garden. Similarly musical instruments can be included, along with sound-inducing plants such as swishing bamboo and grasses, to provide another sensory stimulus and participatory enjoyment.

A garden can offer a good alternative learning environment for children who tend to be 'switched off' in a more traditional classroom setting. Sympathetic seating and table arrangements will help. Tables are also useful for basic gardening such as sowing seeds, recording in journals, or for craftwork using natural materials. Having a sheltered 'work station' makes it more versatile and less dependent on good weather, and allows a permanent white or blackboard for children to record their work by drawing or writing – which in turn will encourage literacy skills and be a source for discussion.

The choice of planting is obviously very important when designing a garden to be used by children with special educational needs. All the plants need to have some sensory quality. For children with visual impairment, bright or light colours or scent, or particular tactile

qualities can be chosen. Those with profound disabilities can be stimulated in various ways. For example, if they are under the dappled shade of an oak tree, they can listen to the sound of the wind in the leaves and may be able to see leaves, or flowers falling from the tree, feel the bark, hear the crunching noise of the leaves under their wheelchair, or if able, to collect them up or help rake them.

As mentioned, having a wild area to encourage wildlife can benefit children, and even in a formal setting plants can be chosen to attract birds or butterflies.

Planting choices will of course be influenced by matters of health and safety and will depend on the level of disability of the children who will be using the garden. If they are too disabled to be able or willing to identify what is or is not edible, then one must ensure that poisonous plants are not grown, rather than planting is entirely edible. This is not too limiting, there are so many fruits, vegetables and flowers which are stimulating, rewarding and safe. Safety considerations apply when designing gardens for children in general, but especially with the more vulnerable or with limited understanding. Potential hazards – slipping and tripping – need to be considered when choosing surfaces, width of paths, and water features, and don't forget the likelihood of stings and scratches from some plants.

An ideal garden for children with special educational needs would be a space for children just to be. Where the garden can be made sufficiently accessible they can enjoy some freedom to experience the benefits of gardening, and a little independence from adult support.

Reference

→ Wilson, Edward O., 1984. *Biophilia*. Harvard University Press, Cambridge, Mass.

RÉSUMÉ

Les enfants ayant des besoins éducatifs spécifiques sont ceux qui ont des difficultés ou des handicaps qui rendent plus difficile pour eux l'apprentissage ou l'accès à l'éducation.

Thrive pense que les jardins, et le jardinage, offrent de nombreux avantages aux enfants. Si un jardin est accessible aux enfants ayant des besoins spécifiques, alors ces derniers peuvent aussi en récolter les bénéfices.

Il faut offrir un jardin bien structuré, avec des chemins pratiques pour les fauteuils roulants et des parterres surélevés, ainsi que des espaces pour se défouler, s'amuser et favoriser le jeu. Utiliser des plantes pour leurs qualités sensorielles, fournir de la nourriture pour la faune sauvage ou pour l'alimentation des enfants.

Rendre les jardins accessibles pour ces enfants peut améliorer leur confiance et l'estime d'eux-mêmes, et élargir leurs horizons.

RESUMEN

Niños con requerimientos especiales para su educación son aquellos que debido a su minusvalidez encuentran más difícil el tener acceso a una educación adecuada. Thrive ha fundado un jardín y jardinería con muchos beneficios para estos pequeños. De tal manera que si el jardín es de acceso fácil para ellos, es posible cosechar los beneficios mismos del jardín y jardinería.

El proporcionar un jardín con una buena infraestructura como son: acceso a silla de ruedas, veredas con rampas adecuadas en las pendientes y jardinerías elevadas. También un espacio para desahogar la energía, divertirse, y animarles a jugar. El hacer uso de las cualidades aromáticas de las plantas poniendo en juego todos los sentidos, crear conciencia de las cualidades alimenticias que las plantas tienen para los humanos y la vida silvestre. Haciendo los jardines botánicos accesibles a ellos puede mejorar la confianza en sí mismos, aumentar su autoestima a la misma vez que sus horizontes.

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Play the no. 1 factor in children's garden design

Play was a prime mover when Royal Botanic Gardens Melbourne set about designing its Ian Potter Foundation Children's Garden. As **Christine Joy** and **Roslyn Semler** explain, children took a key role in the design and adult memories of childhood were also influential. Here the authors describe how their observations of children at play informed the design process and how this understanding reaches out beyond the confines of the children's garden.

Many of the challenges we face in design and implementation are linked to misconceptions about play, however we are better able to respond as our understanding of the value of play-based approaches grows.

The children at Bialik College have some answers for us as we examine their responses to time spent at the Royal Botanic Gardens Melbourne (RBGM) and the Ian Potter Foundation Children's Garden (IPFCG) over a six-month period

in 2011. These children reinforced our efforts in promoting play in places beyond those actually designed for play – vital to forming deep emotional bonds with nature and foundations for attitudes and behaviours that are empathic to nature.



Layout of the Ian Potter Foundation Children's Garden (RBG Melbourne)

An understanding of play as the work of children is a key consideration in effectively engaging them in decision-making processes. On Roger Hart's Ladder of Participation (Hart 1992) we clamber from the fifth to the sixth rung, occasionally slipping back, but suspecting that play and time to play might be the extra rope we need to help hoist ourselves up.

Design process

A multi-disciplinary design team for the IPFCG, with expertise across the fields of art, horticulture, visitor programmes, education and landscape architecture was established in 2001. Working together generated insight for one another's professions and ensured equal consideration for each professional viewpoint. Our combined vision emerged from the feeling that as children we had all been fortunate to have experienced time playing in nature, and saw the clear

benefits and impacts on our adult lives. Through the vision statement we expressed our passionate belief that all children need the opportunity, time and freedom to play in rich outdoor environments:

The IPFCG is a place where children can delight in nature and discover a passion for plants. It is a garden that celebrates the imagination and fosters the creative nature of play.

A busy information gathering period followed throughout 2001–2. We consulted adult members of the community across the fields of child development, play, early childhood education, planning and design. We made visits to early learning centres, schools, playgrounds and other cultural organizations interested in children's play and learning within our own city. Our focus was on open-ended play, the sensory and physical body, changes in nature, and the role of the adult in helping children bond with nature. We invited key members of this community to discuss their thoughts and experiences with us and asked local experts to join a reference group with whom we met to report progress and seek feedback. Relevant theories of teaching and learning were collated, in particular those making connections between play, nature, creativity, thinking, the imagination, and the importance of bodily movement and the senses in learning processes. This research included a study tour for two of us to visit children's gardens in the United States.

Connect with nature

During July and August 2001 a survey was conducted with adult visitors to the RBG, parents of a local healthcare centre, and parents of Noah's Ark (a support centre for children with additional needs and their families). We wanted to find out what their perceptions of a children's garden consisted of and what they would like children to learn and experience from a visit to the IPFCG. The results confirmed their wish for children to have the space and freedom to actively explore, appreciate and connect with nature and gardens through sensory experiences, hands-on gardening and other creative art forms. All the ideas and information



Children want space and freedom to explore, appreciate and connect with nature through sensory experiences, hands-on gardening and other creative art forms (RBG Melbourne)

gathered during this period were then workshopped into a conceptual plan for the garden.

During construction in 2003–4, intensive work on strategies for community and school engagement followed, which involved continued consultation with the education community. A state-wide programme *Plantmagic* invited children's artistic responses, through any medium (dance, music, puppetry, sculpture, poetry etc.) to the question *How do you feel about gardens?* The IPFCG was officially launched in October 2004 together with the children's artwork and performances.

Play experiences from our own childhoods also drove the direction of the garden; we wanted to create wild spaces, hiding places, immersive plant landscapes, challenges and adventures. We grew up without time constraints, playing on farms, in the bush, on the 'spare block over the back fence', at the beach, squeezing between and climbing over rocks and trees, observing and knowing animals (wild and domestic), plants, weather, seasons, life and death. We experienced risk. True wilderness wasn't essential but wild elements were, as well as the freedom to play with natural materials, get dirty, get into mischief. We had grown up with pets and vegetable gardens where we picked and ate fresh, sometimes raw food. Our

parents had shown us that the bush/beach/desert mattered. Hopefully, some of this is now evident in the garden – tea-tree tunnels that grab your hair, rocks you have to squeeze around, and bidgee widgee, a sticky plant that you have to remove from your clothing.

Formal engagement

We worked closely with two small primary schools, one inner city and one rural. By selecting small schools we could involve all the children of varying ages in the process, and observe any differences in how the two schools responded. A range of methods were used to collect data. In a session at the RBGM we dumped a range of loose 'natural' material for play and construction and observed how the children interacted with it, with one another, and with adults. Children were observed on adventure walks during which they were given little direction and a lot of freedom to explore and experience diverse plant landscapes including dark, light, open, closed, cool and warm. We noted their behaviour and asked them to reflect on their experiences.

Later that year we visited the children at their school to explain the project in more detail and ask them if they were to create a garden what would it be like? They responded with words, written and spoken, with art and more formalized drawings or plans. In 2002 we returned to show the children the concept plan and again gathered their responses.

Informal engagement

Throughout the design period education staff observed children playing (child or adult initiated) in the gardens during programmes; this included their responses to collected material and also children's responses to seeing trees or landscapes for the first time – for example: 'That looks like Peter Rabbit's tree!' 'That tree has a grumpy face.' In 2002–3 visiting groups were asked at the end of education sessions 'What would you have in a garden especially for children?'

The children's responses were collated and some clear patterns emerged which were incorporated in the plan. They wanted to make cubbies (dens), to climb trees, to hide, to play with water, to make believe.



Through self-directed learning, children collected images in the garden and created stories and animations in school (RBG Melbourne)

Freedom and safety

When The Ian Potter Foundation Garden opened in 2004 a new and fruitful part of the process was encountered in the challenges that came our way! How to balance freedom and opportunities for learning through risk-taking with supervising for safety, especially around water? How to provide loose materials and allow mess, while maintaining a neat garden (see Roger Hart's Anarchy or Order.) If the 'anarchy' element is vital, how do we keep it alive and well? How do we provide for water play in a time of drought? How do we offer teachers curriculum links but factor in time to play? How do we utilize the 'Less is More' approach to programme planning? How do we communicate the value of nature play and a play-based curriculum to the wider community? It is almost always a balancing (or juggling) act.

Case study

School partnerships with the RBGM offer long-term engagement, building strong relationships between people and place and offering all the advantages of problem solving and place-based learning.

A 6-month partnership with Bialik College teachers and Year One children was established in 2011. This case study typifies the role of play in the wider gardens and contributes to our growing understanding of the need for child-directed time in nature. Although the Bialik children loved the action-based IPFCG they were intrigued by the RBGM's wider spaces; they spent a significant amount of time wondering about ancient trees and tall 'dark forests'. It seems they found food for their imaginations. They wanted to spend time alone, 'wonder time'. They wanted to collect, photograph and create ephemeral art with plant material. They wanted to share their discoveries and ask questions. They were confident in driving their own learning directions.

Back at school the children created extraordinary animations (claymation) using their own stories, and it was the old trees they chose to write about. Interestingly, all the stories were rich in fantasy as well as based in very empathic connections with the old trees (oak trees and Bunya Pine in particular). The trees became characters that embodied the children's own fears, joys, desires and sorrows. In their minds these trees had become unforgettable and the children still ask after the trees when they see me or write to me. It appears that a combination of strategies led to a high level creative response and empathic connection:

- storytelling by a significant adult (in this case blended fact and fantasy)
- wonder time (time alone to look deeper) – children's wonderings collected by parents included: I wonder if that tree is happy? If it likes me? Why it grew like that?
- time spent collecting, manipulating, playing with loose material, drawing, photographing, using the senses and body in new ways
- time spent sharing ideas, observations, questions, feelings with others
- high-level adult respect for children's own imaginary and emotional responses and ideas (including both teacher and parental involvement).
- all of the above in rich outdoor landscapes.

We need to continue, asking ourselves: can we rest on our laurels or is something else required for this most

vital of creative activities to flourish? Just because we place children in nature, will they play? Time and freedom are vital elements in the equation, as is the passion and attention of significant adults in children's lives; adults who have been lucky enough to know (or learn) what it means to play in the natural world, with others or alone, quietly or noisily, sharing, contemplating, in stillness and in action, where time passes rather than imposes, and ideas are the river that flows from an eternal, dependable source of inspiration.

References and further reading

- Carson, R., 1987. *The Sense of Wonder*. Perennial Library, Harper & Row Publishers, New York
- Hart, R., 2003. 'Anarchy or Order', *Roots 26, Planting for Education*, Botanic Gardens Conservation International, Richmond, UK
- Hart, R., 1992. 'Children's Participation: From Tokenism to Citizenship.' *Innocenti Essays*. UNICEF, Florence, Italy
- Jenkinson, S., 2001. *The Genius of Play: Celebrating the Spirit of Childhood*. Hawthorn Press, Stroud, UK
- Kluska, N., 2011. 'When you create an identity for something you have a greater ability to empathise with it', Minter, E, 'What makes a children's garden?' Georgiou, K. 'The Story of the Trees', Oberman, H. 'Who would care if I were not there? Windows into Children's Thinking', *Bialik College Early Learning Centre Journal*
- Rayner, J., 2007. 'Community Consultation in Designing Children's Gardens – An example from Australia', *ISHS Acta Horticulturae 762: XXVII International Horticultural Congress – IHC2006: International Symposium on Horticultural Plants in Urban and Peri-Urban Life*.

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RÉSUMÉ

La Fondation Ian Potter pour les jardins d'enfants (IPFCG), située au Royal Botanic Garden de Melbourne, créé en 2005, est un endroit où les enfants peuvent s'amuser dans la nature et se découvrir une passion pour les plantes. C'est un jardin qui célèbre l'imagination et favorise la nature créative du jeu (communiqué de l'IPFCG).

Le jeu est une inspiration constante pour le travail que nous menons au RBG en tant qu'animateurs, mais dans cet article, j'examinerai le rôle du jeu dans le processus de conception du IPFCG par le biais de la contribution des enfants qui travaillent avec nous à l'élaboration du projet et, comme concepteurs, par la force indéniable de notre propre mémoire de l'enfance.

Beaucoup de défis auxquels nous devons faire face dans la conception et la mise en place sont liées aux perceptions, voire même à un manque de compréhension au sujet du jeu. Cela nous donne à réfléchir : le jeu est-il une forme d'art perdue et évasive ? Ce que l'on nomme conduite innée, le travail des enfants, est-il un pur mythe ? Ou le jeu, comme depuis des millénaires, prouvera-t-il que c'est une force qui n'obéit à aucune frontière et à aucune limite ?

Les enfants du Bialik College devraient avoir quelques réponses à nous apporter, tandis que nous étudions leurs réactions sur la période de 6 mois qu'ils ont passée au RBG et à IPFCG, en 2011.

RESUMEN

La Fundación Jardín del niño Ian Potter (IPFCG, por sus siglas en ingles) se localiza en los Jardines Reales Botánicos (JBR) de Melbourne, fue inaugurada en el 2005; espacio donde los niños pueden deleitarse con la naturaleza y descubrir su pasión por las plantas. En sí, es un jardín que celebra la imaginación y abriga la creatividad en jugar en la naturaleza (Visión de IPFCG).

El jugar es la inspiración constante del trabajo de los educadores en RBG, en este artículo, se examina el desempeño que tuvo el juego en el proceso del diseño del IPFCG, desde ambas partes, la contribución que presentan los niños que trabajaron durante este, y los mismos diseñadores, quienes indiscutiblemente tuvieron la fuerza de los recuerdos de su niñez.

Muchos de los retos que se enfrentan en el diseño e implementación están ligados a percepciones, incluso falta de entendimiento de ¿Qué es jugar?,



Picture of 'The Grumpy Tree' - created in school following a visit to the botanic garden

surgieron así preguntas, como ¿sí el jugar es una forma sutil de arte perdido? o algo que se le puede llamar impulso innato, siendo en realidad el trabajo de los niños, ¿es hoy en día un mero mito? ¿es jugar nada? o, ¿es el jugar, como ha sido por siglos, una fuerza misma que no tiene barreras y responde sin límites?

Los niños en el colegio Bialik pueden dar algunas repuestas a las dudas que se el equipo de diseñadores se planteo, leyendo este artículo, examinemos sus actividades en el tiempo que ellos pasaron en el JBR de Melbourne y en particular en IPFCG durante 6 meses en 2011.

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The children's garden encourages the forming of deep emotional bonds with nature

El Bosque de los Niños

un espacio único para niños en el
Jardín Botánico Atlántico

En la costa atlántica de España, el Bosque de los Niños en Gijón, es todo sobre el aprendizaje y la diversión familiar. Abierto solo unos meses, este espacio arbolado ha sido diseñado especialmente para los visitantes jóvenes y los involucra en un atractivo y estimulante programa de juegos, paseos y otras experiencias de aprendizaje.

El Jardín Botánico Atlántico de Gijón (España) nació en el año 2003 con el objetivo de divulgar, investigar y conservar la flora y vegetación de los territorios del Atlántico Norte. Desde sus inicios, la sensibilización ambiental del público infantil ha sido un objetivo prioritario del espacio y hacia él se dirige una variada oferta de actividades lúdicas y educativas. Conscientes de la necesidad de que los niños reconozcan su implicación con la Naturaleza y aprendan a preservarla desde el juego y la diversión, para incorporarla, de adultos, como valor permanente, la oferta divulgativa del Jardín incorpora espacios y contenidos específicamente adaptados al público infantil. El Bosque de los Niños es el primer rincón así concebido, en el que la idea de bosque como una "gran casa vegetal" es el hilo argumental utilizado para despertar el interés de los más pequeños por la naturaleza.

Un proyecto integrado en el medio natural

Durante las obras de acondicionamiento de la Finca de La Isla, cuyo jardín histórico se ha incorporado a las instalaciones del

Jardín Botánico, se apreció la existencia de un espacio bastante deteriorado, próximo a una Carbayedada natural de *Quercus robur*, donde lo que había sido un sendero de centenarios tejos se había

convertido en un canal impracticable. La discontinuidad topográfica existente entre esta zona y la citada carbayedada y su diferenciación y singularidad botánica respecto de ésta, indujo a buscar un motivo para su integración en el Botánico. Fue así como este enclave, medio oculto en el bosque, se vislumbró como escenario idóneo para albergar un espacio dedicado a los más pequeños.

El Bosque de los Niños se ha hecho realidad gracias al Taller de Empleo de Salud Mental del Ayuntamiento de Gijón a través de sus módulos de Albañilería, Carpintería y Jardinería. Su valioso trabajo sumado al esfuerzo inversor del propio Jardín, han hecho posible el acondicionamiento del espacio y la dotación de las infraestructuras necesarias



Zona de juegos custodiada por el cuélebre, personaje mitológico cuyas dimensiones lo convierten en principal protagonista del espacio (Jardín Botánico Atlántico)



Paseo de tejos con la libélula gigante y plantas tan llamativas como los helechos arborescentes, más conocidos por nuestros niños como "lechuga de los dinosaurios" (Jardín Botánico Atlántico)

Aprendizaje y diversión para transmitir valores ambientales

Durante las obras de restauración se mantuvieron los ejemplares singulares que ya crecían en este espacio, (tejos, carbayos, saúcos, etc.), y se añadieron nuevas plantas, duplicando el número de especies que ya habitaban en él. Todo ello permitió enriquecer los contenidos de este bosque tan especial, proporcionando a los más pequeños una gran diversidad de formas y tamaños para aprender e investigar. Además de la flora autóctona característica de estos bosques, entre los ejemplares conservados se encuentran dos cipreses de unos 30 m de altura y plantas tan originales como los helechos arborescentes (*Cyathea* y *Dicksonia*) testigos de la vegetación dominante



Visitar el juego de las ranas adivinas, medir un árbol o analizar la importancia de las hormigas en el bosque son algunas de las actividades propuestas en el folleto sobre las matemáticas y la naturaleza (Jardín Botánico Atlántico)

durante el Jurásico; ruibarbos gigantes (*Gunnera manicata*) cuyas hojas pueden llegar a tener un metro de ancho; y varias especies de frutos silvestres como la arandanera (*Vaccinium myrtillus*), la fresa (*Fragaria vesca*, conocida en Asturias como "miruéndano"), el manzano (*Malus sylvestris*) o la zarzamora (*Rubus* sp.pl.). Otras especies exóticas incorporadas han sido variedades de bambú (el alimento preferido por el oso panda) y plantas orientales como la espectacular andrómeda (*Pieris japonica*).

Además de las colecciones vegetales, el espacio cuenta con:

- Un colorido auditorio que incorpora un área adaptada para sillas de ruedas.
- Una zona de juegos, custodiada por un gran "cuélebre" (dragón alado de la mitología asturiana) que sorprende a sus pequeños visitantes con un laberinto de toboganes.
- Un pavimento de seguridad adecuado para la celebración de juegos y talleres.
- Servicios adaptados para los más pequeños.
- Una zona destinada a la recogida y plantación de bellotas.

Al llegar al Bosque de los Niños un cartel nos da la bienvenida y nos invita a descubrir la realidad del Bosque como una gran casa vegetal donde conviven multitud de organismos vivos formando un ecosistema. Para conocer a los habitantes de esta casa (flora, vegetación, fauna, organismos descomponedores, etc.) y entender cómo se organizan, se diseñó una batería de paneles adaptados al tamaño y a las capacidades del público infantil.

La tipografía y el lenguaje utilizados son sencillos y se incluyeron atractivas ilustraciones y recursos expresivos cercanos a los niños... ¿Sabes qué es una planta epífita?, ¿cuáles eran las plantas que comían los dinosaurios...?. Nuestro "miruéndano" (mascota del Club de pequeños amigos del Botánico) es el encargado de guiar este recorrido por las curiosidades del mundo vegetal y la vida en el bosque.

Las matemáticas también cuentan

Siguiendo un recorrido de 100 metros flanqueado por tejos centenarios, es posible conocer habitantes tan especiales como la "libélula gigante" o participar en el "Juego de las quince ranas adivinas", elemento que nos permite introducir la presencia de las matemáticas en el crecimiento de las plantas y la vida en la naturaleza. Gracias al apoyo del material didáctico elaborado 'ex profeso' y con un poco de ingenio, los visitantes del espacio pueden convertirse en investigadores por un día y descubrir la gran diversidad de formas y geometrías en el bosque, la vida matemática de sus habitantes o analizar la magnitud del proceso de deforestación sobre el planeta.

Un proyecto con futuro

La apertura del Bosque de los Niños tuvo lugar en agosto de 2011, si bien el proyecto del espacio no ha sido ejecutado en su totalidad y se prevé completar su desarrollo en sucesivas fases y según los recursos disponibles. El objetivo es ampliar el discurso didáctico del recorrido, con sencillos y novedosos recursos que complementen a los ya disponibles. Se reforzarán los contenidos sobre la fauna del bosque, prestando especial atención a la pequeña fauna y a los organismos descomponedores, así como al papel que estos seres juegan en la conservación del bosque y en el mantenimiento de la biodiversidad. La recreación de un hormiguero, maquetas de insectos o la demostración de la vida contenida en la madera muerta son algunos de los recursos incluidos en el citado proyecto.

A día de hoy, el Bosque de los Niños recibe la visita de los grupos escolares que participan en la oferta educativa del Jardín (cerca de 8.000 alumnos cada



Cartela informativa de la Fresa silvestre (Fragaria vesca). Nuestro pequeño "miruéndano" nos cuenta fascinantes curiosidades de las plantas y nos ayuda a reconocerlas (Jardín Botánico Atlántico)

añ), y se ha convertido en lugar de referencia para la celebración de actividades infantiles (títeres, juegos y talleres) organizadas en el marco de fiestas o eventos. Dinamizar el espacio es otro de los objetivos del Botánico para consolidar su uso como recurso lúdico y educativo por parte de los visitantes del Jardín, bien de forma autoguiada o bien tutelada por monitores, guías o profesores. Con este fin, en verano de 2012 se pretende lanzar un programa específico para que nuestros pequeños visitantes disfruten de actividades (juegos, gymkanas, etc.) en el Bosque de los Niños, organizadas en varias frecuencias semanales y guiadas por monitores. Esto permitirá potenciar el uso del material didáctico ya elaborado y propiciará el diseño y la práctica de nuevos recursos. Confiamos en el éxito del programa y en su consolidación como oferta permanente del Jardín.

SUMMARY

Since August 2011, visitors to the Atlantic Botanic Garden of Gijón (Asturias, Spain) can enjoy a new 3,000 m² area created especially for young audiences and designed for family fun and learning: The Children's Forest.

Through this project, the Botanic Garden draws nearer to the children so that they feel part of nature and directly interact with it. At the same time they discover the reality of forests and fascinating curiosities about the organisms living in it. The natural vegetation of the new area was enriched with beautiful plants and



El auditorio del Bosque de los Niños acoge actuaciones y eventos dirigidos a público infantil y familiar. En la foto, día de la inauguración (Jardín Botánico Atlántico)

complemented with a set of informative panels adapted to the size and reading ages of children, including several games integrated within the environment.

Enhancing the usage of the area by family audiences through using an attractive and stimulating pack of activities (games, walks, etc..) supervised by monitors and regularly scheduled, is a priority for strengthening the Children's Forest as a leisure and education resource.

RÉSUMÉ

Depuis août 2011, les visiteurs du Jardin botanique atlantique de Gijón (Asturies, Espagne) peuvent se réjouir d'un nouvel espace de 3 000 m², nommé « La forêt des enfants », créé spécialement pour le jeune public et aménagé pour l'amusement et l'apprentissage des familles.

Au travers de ce projet, le jardin botanique se rapproche des enfants pour qu'ils se sentent tels une partie intégrante de la nature et directement en interaction

avec elle. En même temps, ils découvrent la réalité de la forêt et développent leur curiosité pour les organismes qui y vivent. La végétation naturelle de ce nouvel espace a été enrichie par de superbes plantes auxquelles s'ajoute un ensemble de panneaux adaptés à la taille et aux capacités des enfants, dont notamment différents jeux bien intégrés à l'environnement.

L'amélioration de l'utilisation de cet espace par le public familial en s'appuyant sur un ensemble d'activités attractives et stimulantes (jeux, marches, etc. ...), régulièrement programmées et supervisées par des moniteurs, sont des objectifs prioritaires pour valoriser « La forêt des enfants » en tant que ressource éducative et de loisirs.

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La zona de juegos, donde el cuélebre (un dragon) sorprende a sus pequeños visitantes con un laberinto de toboganes (Jardín Botánico Atlántico)

Bridging the generation gap

developing play spaces for children

At Oman Botanic Garden, an ambitious conservation, education and research initiative currently under construction in Muscat, planned play facilities for children have been a priority from the beginning. Oman's **Sarah Kneebone** describes how the garden team went about researching and then planning for the provision of child-friendly spaces and activities within the overall design of the garden.

As with most botanic gardens, children will be a key target group for the new Oman Botanic Garden (OBG). Oman is a very young country demographically – 40 per cent of the population are under the age of 15, household size in Muscat (Oman's capital) averages 8, and family groups will be important future users. It is the children within a family who tend to dictate decisions regarding leisure opportunities, so creating fun spaces and activities at OBG will be vital to the overall success of the project. Stimulating play spaces will result in exciting experiences, encourage further visits, and help to direct visitor flow through the facility (Wilson, personal communication). In addition, we know

that play in an outdoor environment is good for children's development and their enjoyment of the natural world (e.g. Schultz *et al.* 2004), which will help in fulfilling the overall vision of the garden.

In 2008, discussions regarding provision for children focused on creating a schools' garden, identifying potential locations, contents, and what facilities were required or possible to include. Rough plans were developed with activities and target users in mind, ensuring flexibility of the space by incorporating wide paths for easier access, shaded seating areas, raised beds and individual plots. Such an area will be ideal to attract schools, community groups, special interest clubs



Children's views were taken into account in the planning process (Oman Botanic Garden)

or health rehabilitation organisations, for workshops on composting, use of water, native plantings, horticultural techniques and much more. As the project has grown and construction of the main botanic garden commenced, the garden team returned to these plans to review how else we could meet the needs and wishes of younger audiences.

Our Mission

Discover, cultivate, showcase and protect Oman's unique plant diversity and ethnobotany through innovative research, exciting displays and engaging communication.

Our Vision

People are inspired to conserve and cherish the biodiversity and botanical heritage of Oman for a sustainable future.

In preparation, we talked a lot with teenagers who had visited the botanic garden through our embryonic education programme, or met us at events and exhibitions, to help us identify three main areas: what they would expect to see at the botanic garden; what they would like to do; and what barriers they could imagine that would restrict their visiting. The main limitation they recognized is transport – taxis are the only public transport in Muscat, which parents may not allow. Many of the teens wanted opportunities for engagement and interaction, training and learning, but above all they requested facilities for themselves and their friends to relax in, where they could have some food (quick and cheap), chat, listen to music or study; Wi-Fi was universally declared essential!

Next we developed a steering committee – a group of OBG staff and outside advisers to meet regularly and discuss the ideas and options for play provision. It was vital that contributors came from every department in the garden, to ensure a range of perspectives and to gain wide support for the solutions under consideration. The four-month meeting programme started with discussions on ‘What is a children’s garden?’, and ‘Why is play important to OBG?’ and looked at examples such as the Ian Potter Children’s Garden, Minnesota Landscape Arboretum, National Botanic



Oman Botanic Garden team members helping local children plant up their school grounds (Oman Botanic Garden)

Gardens of Wales, Eden Project, and Kings Park and Botanic Garden in Perth to gain inspiration.

Steering committee participants also accepted ‘homework’, reading research papers about the importance of play, nature play, and other types of play experience and their impact on child development. The group wanted to be clear what we were aiming for, what would be age-appropriate, and how the garden could offer the best experiences to families and children.

As Omani families will be OBG’s principal visitors, the site will be operated and managed to culturally appropriate standards. Discussion with Omani team members was essential to understand requirements – for example, mothers would not expect to be able to remove their shayla (head scarf) and abaya (robe) when taking their children out to play. As both parents tend to play with their children, and if an area were to become busy with fathers, the mothers might sit to one side. Some families might bring nannies with them, but only if the father was not available. White Hutchinson, a play area consultancy with experience in the Middle East, is a useful reference for questions on cultural appropriateness.

Together the group identified all the current child-focused provision designed for the site and used it to produce a ‘play audit’. This clarified the location, type of provision, stage of development of the provision, target age group and duration of engagement (with implications for visitor flow, visitor management and length of visit) into a comprehensive matrix.

Subsequent discussions produced a simple market analysis, a spreadsheet summarizing play experiences available locally, by age group, type of activities, geographic distance and travel time from OBG. Muscat’s extreme summer weather, over 40°C during the day for three months a year, is a significant



Oman Botanic Garden has already sparked interest in younger audiences, these local school girls are keen to return with their families (Oman Botanic Garden)



This extensive play structure at Kings Park and Botanic Garden in Perth was a particular source of inspiration (Oman Botanic Garden)

obstruction to outdoor play, as beaches, swimming pools and parks become inaccessible. Indoor experiences, such as play areas at shopping malls or fast food restaurants, are popular, but uncomfortable for adults and offer no contact with nature. These data provided an idea of the opportunities missing within the area, and gaps in the existing plans for the OBG which could be filled to the advantage of younger visitors.

Kings Park and Botanic Garden in Perth, Australia, was a major inspiration for the committee. We were fortunate to have their CEO, Mark Webb, involved in one of the meetings, to explain the operational feasibility and key safety and maintenance issues for King's Park play facilities, which are enjoyed by millions of children each year. Practical design suggestions on placement of cafés to ensure parental supervision, staffing requirements, and photography restrictions in the under-6 area were informative, along with consideration of lighting fixtures to avoid burned fingers and the necessity of daily maintenance inspection against a formal checklist.

From KPBG's experience, Oman's climate means that metal slides are a no-no, as even plastic ones may have to be closed on hottest days, and snake proofing is required! Cost of renewals must be part of the budget; if a play space works it will be used over and over. Winnie Wong Wing, from Jacob Ballas Children's Garden in Singapore

Botanic Garden pointed out that off-the-shelf installations are far easier and cheaper to replace than those specially-designed and purpose-built.

Finally, the steering team tackled design criteria, such as health and safety considerations, use of education programmes, ease of maintenance, accessibility for different age ranges, use of natural materials, and explicit educational themes. These were ranked 1-5 by each individual (from 'not important' to 'compulsory') and the scores were then averaged to identify

elements to be included in the design briefs for each new area. For example, the team felt that a play area in a village did not have to be usable by all ages, or have a specific educational theme, but it must be fun, attractive, support the aims of OBG and include provision for adults.

Through this process the committee identified four main ideas: an indoor multi-age play space, a community and schools garden, a family picnic and play area and an exhibition-based interactive exploration area. We discussed possible contents in detail and how each would contribute to OBG both in terms of conservation and education and as a visitor attraction. The final proposal began with a rationale describing why OBG requires extended play provision and opportunities for solutions. Every option was then summarized on a single page, with an indication of implications for existing design, budget allocation, budget scale, concept statement illustrating the experience, key design elements, content of the area, location, size and audience identification.

Our proposals have now been submitted for review and consideration, so watch this space!

Many thanks go to the OBG play area steering committee: Dr Annette Patzelt, Laila Al Harthy, Khalid Al Nabhani, Zawan Al Qasabi, Hanan Al Maqabali, Khalid Al Farsi, Thuraiya Al Jabri, Salim



Young teenage children on an education visit, they really just want a place to 'hang-out' (Oman Botanic Garden)



With 40% of the Omani population under the age of 15, children are the key target group for Oman Botanic Garden (Oman Botanic Garden)

Al Makmari and additional contributors Andrew Anderson, Mark Webb, James Smith and Craig Tucker.

References and further reading

- Schultz *et al.*, 2004, cited in 'Benefits for children of play in nature' on White Hutchinson website [see below]
- White Hutchinson consultancy, 'Creating playgrounds children love', 'Developmentally appropriate environmental education', 'A Children's Play Center in Arabia'. www.whitehutchinson.com/children/articles Accessed 5 May 2011
- Wilson, 4FMS: Managing facilities solutions across the Middle East & Africa
- www.childdevelopmentguide.com/development-through-play.html Accessed 11 April 2011
- www.rosipa.com/playsafety/info/06_code.htm Royal Society for the Prevention of Accidents. Useful information about creating safe play. Accessed 11 April 2011

RÉSUMÉ

Le jardin botanique d'Oman est un ambitieux organisme de conservation, d'éducation et de recherche à Muscat, au Sultanat d'Oman. Le projet de 420 ha se met en place depuis 6 ans et est actuellement en construction. Cela a

permis à l'équipe du jardin de mener une réflexion complète sur les jeux prévus pour les enfants, comprenant des recherches, la consultation du public, des discussions de l'équipe de pilotage et la contribution d'experts pour créer une analyse des lacunes, identifier les offres du marché existantes et définir des directives de conception pour le développement des aires d'exploration, de récréation et de jeux créatifs destinées à différentes tranches d'âges. Cette méthodologie a assuré l'engagement de l'équipe de l'OBG et ouvre des perspectives en vue d'élaborer de nouveaux projets en matière de développement d'espaces de jeu.

RESUMEN

El Jardín Botánico de Omán (JBO) tiene un programa ambicioso de conservación, educación e investigación en la Sultanato de Muscat (Omán) durante los siguientes seis años, en donde 420 ha. serán modificadas. Este programa permitirá al equipo del jardín una revisión completa y planeamiento para proveer áreas de juegos infantiles. A través de un equipo de investigación directa, discusiones con expertos y un análisis de 'lagunas a llenar' se identificarán las ofertas de mercado y definir un diseño breve para la extensión de la exploración, recreación y creación de áreas de juegos para todo un rango de edades. Esta metodología ha asegurado financiamiento para el equipo de la JBO que permitirá poner a consideración una variedad de perspectivas con propuestas para desarrollo

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Oman Botanic Garden staff talking with children and teenagers at an event to discover their interests (Oman Botanic Garden)

Make your garden come alive

top tips for engaging children

Botanic gardens and specifically children's gardens can become more attractive, instructive and fun spaces for young people by addressing a few key aspects of design and practice. Here BGCI's **Claudia Bernardini** draws on a range of valuable experience from the UK that, she argues, is of universal relevance.

There is plenty of confirmation in the literature for the benefits associated with children having the opportunity for playing and learning out of doors (Gill, 2006). Research shows that childhood experience of the natural world helps to reduce the incidence of obesity, Attention-Hyperactivity Deficit Disorder (ADHD), low confidence and bullying, and the counter-productive effects of overprotective parents. The list of positive effects it encourages is even longer, including:

- Mental health and emotional well-being
- Creative play
- Improved interactions with each other and with adults
- Greater confidence in managing risks
- Understanding and coping with the unpredictability of the natural world, which in turn deepens children's relationship with nature



Botanic gardens offer fantastic locations for children to play in more creative and spontaneous ways

- Higher environmental awareness and concern as adults
- Further reliance on and enjoyment of outdoor environments throughout life.

Several botanic gardens have noted the need for a change in the current trend of indoor-based childhood and have embraced a new approach to outdoor playing and learning.

Many have embarked on exciting projects to provide children with the opportunity to reconnect with nature in a fun, natural and child-friendly way – a few examples are The Ian Potter Foundation Children's Garden, RGB Melbourne, Australia and the Eden Project, United Kingdom. Learning from institutions such as these we can draw up a list of eight key areas to address:

1. Encourage risk taking

The way children today experience and will remember their childhood is significantly different from the way adults remember theirs. While 71 per cent of parents played outside their homes when they were children, only 21 per cent of their children are now allowed that independence (Play England). It is true that the environment in which we live has changed considerably, especially in urban and suburban areas, but the main difference is in the way we now perceive and react to risk. One direct consequence of this change in attitude is that today's children spend much more time indoors and are becoming detached from the natural environment. Public policy interest in children's play and learning outdoors has increased alongside parents' concerns and fear of risk. Tim Gill (2007, p. 6) remarks on how important it is to ensure that:

'safety first' does not drive out the opportunities children should have for experiment and development; and that our desire to defend young people against some very real dangers does not lead us into a sanitised world in which creativity and personal growth are stifled.

Children actually need to learn how to take suitable age-related risks when they are small. That way they will gradually



Children are particularly good at making use of common features in unusual and inventive ways

adapt to dealing with the problems that occur in grown-up life. Gardens are ideal places for this in that they:

- Provide opportunity for **free play**, encouraging children – and parents –

to feel confident to explore nature and the outdoors in a safe and healthy way

- Provide a certain degree of **unpredictability** as found in real settings, in real life. Unpredictability is also what attracts children to nature

There is a fine equilibrium between the need of children for adventure and the need of parents for safety. A child-friendly garden can inspire young people to explore without the need for too much supervision.

2. Provide adventure activities

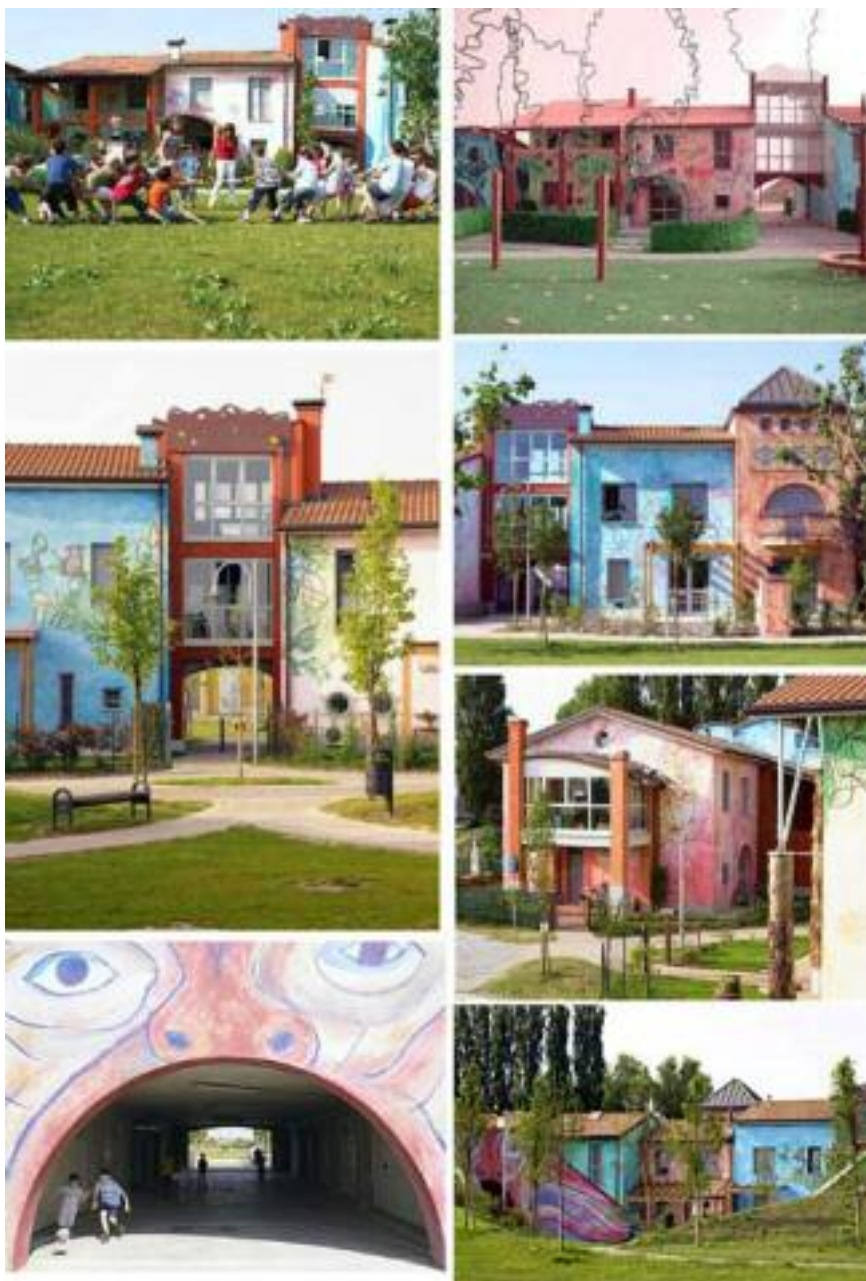
Children are naturally drawn to adventure and gardens can be a remarkable playground for adventurous and 'bush craft' activities, such as campfire cooking, finding wild foods, exploring, climbing trees and den building. Such activities promote creative thinking and problem-solving, boosting confidence and self-esteem.

3. Understand how children play and learn

Children need spaces where they can be noisy, physical and exuberant and where they have the freedom to be inquisitive, adventurous, innovative, creative and



Children need to be given opportunities to take risks



Coriandoline, a neighbourhood in the Northern Italian town of Correggio, was designed by children and adults together. The result is a magical place in which to live.

messy. Natural playgrounds and botanic gardens offer fantastic locations to play in more creative and spontaneous ways through running, jumping and, yes, climbing trees. By providing less structured features, in the form of natural and recycled elements, children will have more space to be creative and use their imaginations.

4. Create 'affordances'

According to Gibson's theory (1982), affordances refer to the functional significance of environmental features for any one individual: our perceptual experience is not only related to the physical structure of objects in the environment, but also an awareness of

their functional significance. An example could be a tree with low branches which is considered 'climb-able' by a child of the right height. As well as climb-able, objects can be 'lift-able', 'walk-able', 'hide-behind-able', 'crawl-underneath-able', and so on; these are all properties and features that are simultaneously determined both by attributes of the features themselves and attributes of the individual.

Affordances are often specific to particular individuals or groups. Consequently, when assessing the functional possibilities of any space such as a garden, we need to consider who it is intended for. Children's affordances

are quite different from those of adults. For example a climbable feature affords exercise and mastery, a look-out and passage from one place to another. A functional description of a garden or playground based on the concept of affordances will provide a much richer account of the psychological resources of the environment for a child.

Tim Gill introduces us to affordances when discussing fixed play equipment as opposed to children's innate playfulness. Children are constantly, actively seeking out new, stimulating ways to engage with whatever is around them. They are very creative and resourceful in making the best of the affordances the environment provides.

5. Consider features and materials

A publication from the international conference Making Space 2010 (Children in Scotland, 2011) shows how the physical environment can be particularly influential in helping children to be the leaders of their own learning. By keeping in mind that the places we live in and learn from are more than just spaces and buildings, there are many ways to support children while they are learning and exploring the natural environment:

- Promoting the use of **natural, sustainable and locally sourced materials**
- Promoting the use of **recycled materials** which would otherwise be discarded, as a method of helping to restore balance to the natural environment
- Including **movable and versatile features**, such as benches, in order to encourage creative play



A child-friendly garden can inspire young people to explore without the need for too much supervision



Adventurous activities promote problem solving which helps to boost confidence and self esteem

Children are particularly good at making use of common features in unusual and inventive ways. By facilitating a more spontaneous grouping while playing and talking, the chance to move things around gives children the opportunity to find their ideal spatial arrangement for socializing (with other children as well as parents and grown-ups).

Ultimately, the design will strongly affect the way young people use the garden in socializing together: a child-friendly space should support both structured and generic activities by having highly specialized areas and more flexible open ones.

6. Introduce soft qualities

Places do not consist only of material and physical objects. Meaningful places also have intangible characteristics that stimulate the emotions and senses of children – such as light, colour, touch, smell and sound. These ‘soft’ qualities have the power to enhance or diminish children’s overall sense of well-being and thus their learning experience.

Gardens can make full use of the soft qualities. Different lighting arrangements can be set up in the garden, for example by using the contrast of concentrated or diffused light, or by creating shadows for

children to play with. Colours should be displayed in all their richness and variety for children to distinguish shades and contrasts. Different kinds of sound can also evoke a variety of emotions, and a well-designed ‘aromascape’ can stimulate with scents from plants, flowers, fruits and organic materials. The garden is also the ideal place to stimulate the sense of touch by offering an exciting diversity of natural materials and surfaces – smooth and rough, wet and dry, opaque, bright, and so on.

7. Involve children in design

Getting children involved in the planning process ensures that the needs and abilities of different ages are taken into account. This approach also enables children to take part in the design according to their different ages and ability to communicate. Engaging them in the planning is also more likely to encourage adults to take notice of children’s emotional response to the environment, which can be rather different from what the adults might have imagined!

8. Become a focal point for the community

Ideally, botanic gardens and children’s gardens should aim at providing a range of services and features that will meet the needs of children, their families and

communities, and will encourage educational and social inclusion. As mentioned above, mobile and versatile features can help to bring about inclusion and socializing across different ages. For example, just enabling benches to be moved around and altered according to the wishes of the individual (for example, to get under the shade, to bring them closer together, to sit or lie down on) can help facilitate larger group discussions amongst any age-group.

References and further reading

- Children in Scotland, 2011. *Making Space. Architecture and design for children and young people*. Edinburgh, October 2010. Children in Scotland: Edinburgh. Available at: www.childreninscotland.org.uk/docs/MSONline.pdf [Accessed 9 January 2012]
- Eden project . Available at: www.edenproject.com/ [Accessed 9 January 2012]
- Gibson, E. J., 1982. The concept of affordances in development ; The renaissance of functionalism. In W.A. Collins (Ed), *The concept of development. The Minnesota symposium on child development*. Vol. 15. Hillsdale, NJ: Lawrence Erlbaum.

- Gill, T., 2006. Growing Adventure Final Report to the Forestry Commission. [pdf] Forestry Commission England. Available at: [www.forestry.gov.uk/pdf/fce-growing-adventure-report.pdf](http://www.forestry.gov.uk/pdf/fce-growing-adventure-report.pdf/$FILE/fce-growing-adventure-report.pdf) [Accessed 3 February 2012]
- Gill, T., 2007. No Fear. Growing up in a risk averse society. [pdf] Calouste Gulbenkian Foundation United Kingdom. Available at: www.gulbenkian.org.uk/pdf/files/--item-1266-223-No-fear-19-12-07.pdf [Accessed 22 December 2011]
- Gill, T. Rethinking childhood. Available at: <http://rethinkingchildhood.com/> [Accessed 13 February 2012]
- Heft, H., 1988. Affordances of children's environments: A functional approach to environmental description. *Children's Environments Quarterly*, 5, 29–37.
- Malavasi, L. & Pantaleoni, L., 2008. Coriandoline: le case amiche dei bambini e delle bambine. (Friendly houses for girls and boys). Correggio, Reggio Emilia: Andria. Coriandoline. Available at: www.coriandoline.it/eng/index.html [Accessed 9 January 2012]
- Nebelong, H. Nature playground in Valbyparken. Available at: www.sansehaber.dk/asp/side/english.html [Accessed 24 January 2012]
- Play England. Play England calls for community action to help children missing out on outdoor play. Available at: www.playengland.org.uk/news/2012/01/play-england-calls-for-community-action-to-help-children-missing-out-on-outdoor-play.aspx [Accessed 20 January 2012]
- The Children's Society. The Good Childhood Report, 2012: A review of our children's well-being. [pdf] Available at: www.childrenssociety.org.uk/sites/default/files/tcs/good_childhood_report_2012_final_0.pdf [Accessed 13 February 2012]
- The Ian Potter Foundation Children's Garden. Available at: www.rbg.vic.gov.au/rbg-melbourne/childrens-garden [Accessed 9 January 2012] *Environments Quarterly*, 12(2), 250–5.

RÉSUMÉ

Parmi les espaces urbanisés de par le monde, en particulier dans les pays occidentaux, les enfants semblent être bien plus déconnectés de la nature que ne l'étaient leurs parents lorsqu'ils avaient le même âge. Les changements dans l'environnement proche (telle une circulation routière plus affluente et plus rapide) et dans la société (telle l'augmentation des craintes des parents) semblent être la principale (et parfois légitime) raison du choix de garder les enfants à l'intérieur pour jouer, créer des liens sociaux et apprendre. Bien que laisser l'extérieur « à l'extérieur » puisse paraître plus sécurisant, se détacher de la nature peut avoir des conséquences négatives à court et long terme. Dans son rapport final pour la commission des forêts, Tim Gill déclare que l'importance des jeux en extérieur et dans la nature est cautionnée par les faits témoignant que « la limitation des expériences de jeu des enfants en extérieur est susceptible de nuire à leur développement physique, mental et émotionnel, les rendant ainsi moins bien préparés au monde adulte et moins intéressés par l'environnement ». Eden project nous avertit également : « une génération qui ne comprend pas la valeur du monde naturel ne se mobilisera pas pour le protéger ». L'un des objectifs des jardins botaniques est d'encourager, et de soutenir, l'intérêt des jeunes envers les plantes et de développer leur compréhension de l'environnement et des problèmes de conservation. Les jardins botaniques représentent une opportunité unique pour les enfants de jouer dans et avec l'environnement naturel et d'en tirer un apprentissage qui puisse les aider à se reconnecter à la nature. Cet article aborde quelques approches et méthodes pour arriver à ces fins..

RESUMEN

Áreas urbanizadas alrededor del mundo, especialmente en los países del Oeste, ven que los niños están sufriendo una separación de la naturaleza comparada con la que sus padres tuvieron durante su misma edad. Cambios en el medio ambiente principalmente el rápido tráfico y en la sociedad el incremento de los temores de los padres, parecen ser las razones (y algunas veces justificables),

el porqué de seleccionar actividades de juego, socialización y aprendizaje dentro de casa. A pesar de esto, dejando el exterior fuera, puede sentirse más seguro, este desapego por la naturaleza puede tener consecuencias negativas a corto y largo plazo. Tim Gill en su reporte final para la Comisión Forestal explica la importancia de la naturaleza y los juegos en el exterior, apoyándose en la evidencia que los niños limitados de este tipo de actividad pueden sufrir un daño físico, mental y de desarrollo emocional, dejándolos menos preparados en su edad adulta e interés en el medioambiente. El Proyecto Edén también advierte que: 'una generación que no entiende el valor del mundo natural no se esforzara por protegerlo'. Uno de los objetivos de los jardines botánicos es animar a las generaciones jóvenes en sostener el interés para las plantas, promover el entendimiento del medio ambiente y su conservación. Los jardines botánicos representan la única oportunidad para el público infantil de jugar en el medio ambiente, de aprender de él, de tal manera que se interconectan en la naturaleza. En esta reseña, se discuten algunos planteamientos y métodos para hacer posible esta atracción a los niños.

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Children need to be given opportunities to take risks

Resources

RESOURCES

Successful Science Communication: Telling It Like It Is

Despite the ever-growing demands of the public, policy-makers and the media, many scientists still find it difficult to successfully explain and publicise their activities or to understand and respond to people's hopes and concerns about their work. Bringing together experienced and successful science communicators from across the academic, commercial and media worlds, this practical guide fills this gap to provide a useful resource covering science communication in its many different forms. The chapters provide background knowledge and inspiring ideas for how to deal with different situations and interest groups. Entertaining personal accounts of projects ranging from podcasts, to science festivals, to student-run societies, provide working examples of how scientists can engage with their audiences and demonstrate the key ingredients in successful science communication.

*David J. Bennett and Richard C. Jennings (Eds), 2011
Cambridge University Press
www.cambridge.org
ISBN-10: 0521176786
ISBN-13: 978-0521176781*

Natural Playscapes: Creating Outdoor Play Environments for the Soul!

Rusty Keeler is an artist and designer living in New York and working at an international level to create play environments for children. His book, *Natural Playscapes*, will inspire you to design and create easy, natural and exciting outdoor spaces for young children without the need for complex

RESSOURCES

Une communication scientifique efficace : le dire comme c'est

Malgré les exigences croissantes du public, des décideurs et des médias, de nombreux scientifiques trouvent encore difficile de bien expliquer et de rendre publique leurs activités, ou de comprendre et de répondre aux espérances et inquiétudes des gens sur leur travail. Rassemblant des personnalités expérimentées et doués en communication scientifique, issues du monde académique, commercial et des médias, ce guide pratique répond à ce besoin, fournissant un outil traitant de la communication scientifique sous ses différentes facettes. Les chapitres donnent des informations de fond et des idées pour répondre à différentes situations et différents publics. Des récits personnels passionnants sur des projets divers, allant de podcasts à des festivals de sciences ou des organisations étudiantes, sont autant d'exemples concrets de comment les scientifiques peuvent échanger avec leurs publics et montrent les éléments clés d'une communication scientifique efficace.

*David J. Bennett and Richard C. Jennings (Eds), 2011
Cambridge University Press
www.cambridge.org
ISBN-10: 0521176786
ISBN-13: 978-0521176781*

Paysages naturels de jeu : créer des environnements extérieurs de jeu pour le bien-être

Rusty Keeler est un artiste et un concepteur qui vit à New York et travaille au niveau international pour créer des environnements de jeu pour les enfants. Son livre, *Paysages naturels de jeu*, vous inspirera pour concevoir et créer des

RECURSOS

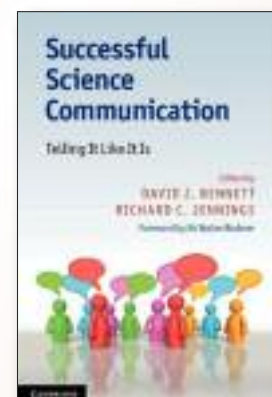
Exitosa Comunicación de las Ciencias: Decir las cosas tal como son

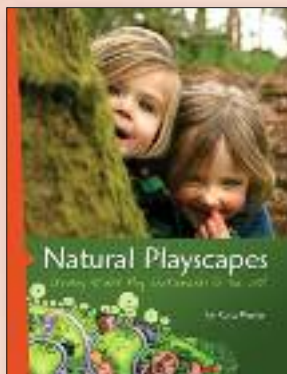
A pesar de las crecientes demandas del público, los políticos y los medios de comunicación, a muchos científicos aún les resulta difícil explicar y publicitar con éxito sus actividades, y también comprender y responder a las preocupaciones y esperanzas de la gente relacionadas con su trabajo. Al reunir a experimentados y exitosos comunicadores de la ciencia de todo el mundo académico, comercial y de los medios de comunicación, esta guía práctica llena este vacío, proporcionando así un recurso útil para la comunicación científica en sus múltiples formas. Los capítulos proporcionan los conocimientos básicos e ideas inspiradoras sobre cómo hacer frente a diferentes situaciones y grupos de interés. Los proyectos presentados van desde los podcasts y festivales de ciencias, a las sociedades administradas por estudiantes, y ofrecen ejemplos prácticos de cómo los científicos pueden interactuar con su público y demostrar los ingredientes clave para una exitosa comunicación de la ciencia.

*David J. Bennett and Richard C. Jennings (Eds), 2011
Cambridge University Press
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ISBN-13: 978-0521176781*

Entornos para jugar: ¡Creación de ambientes exteriores de juego para el alma!

Rusty Keeler es un artista y diseñador vive en Nueva York y cuyo trabajo a nivel internacional es crear entornos de juego





play equipment. His aim is to encourage children to explore the natural world while stimulating their sensory skills and imagination.

The 314 pages contain 500 colour photographs together with illustrations and diagrams. A free preview of the author's favourite sections is available to download from http://earthplay.net/natural_playscapes_preview.pdf

Rusty Keeler, 2007, Exchange Press
<https://secure.ccie.com>
ISBN-10: 0942702476
ISBN-13: 978-0942702477

The Stick Book: Loads of things you can make or do with a stick

A stick is a universal toy and offers unlimited opportunities for outdoor play and adventure. Sticks are also natural and free and very easy to find in a botanic garden! This book will provide you with masses of ideas for using sticks in a wide range of activities including outdoor adventures, games, creative play, woodcraft, music and conservation.

Jo Scholfield and Fiona Danks, 2012
Frances Lincoln Ltd
www.franceslincoln.com
ISBN-10: 0711232415
ISBN-13: 978-0711232419

Poisonous Plants: A Guide for Parents & Childcare Providers

This guidebook is the result of a 16 year collaboration between Royal Botanic Gardens, Kew and Guy's and St Thomas's Hospital Poisons Unit. Written with both botanical and toxicological authority, this book offers concise details of the 130 most poisonous plants that are likely to be encountered in the UK, in the home, garden, and countryside, together with a summary of likely symptoms should they inadvertently be touched or eaten. Photographs of the plants are included to aid identification, and a brief guide to safe plants offers suggestions for the creation of a hazard-free garden.

espaces de plein air qui soient faciles, naturels et excitants pour les jeunes enfants sans nécessiter d'équipements de jeu complexes. Son objectif est d'encourager les enfants à explorer le monde naturel, tout en stimulant leurs capacités sensorielles et leur imagination. Les 314 pages contiennent 500 photos en couleur, ainsi que des illustrations et des diagrammes. Un aperçu des passages favoris de l'auteur sont disponibles gratuitement au téléchargement à l'adresse : http://earthplay.net/natural_playscapes_preview.pdf

Rusty Keeler, 2007, Exchange Press
<https://secure.ccie.com>
ISBN-10: 0942702476
ISBN-13: 978-0942702477

Le livre bâton : un tas de choses à fabriquer ou à faire avec un bâton

Un bâton est un jouet universel et offre des possibilités illimitées de jeux et d'aventures en plein air. Les bâtons sont également naturels, gratuits et très faciles à trouver dans les jardins botaniques ! Ce livre vous donnera plein d'idées pour utiliser des bâtons dans une grande diversité d'activités, y compris des aventures et des jeux de plein air, des créations, des sculptures, de la musique et de la conservation.

Jo Scholfield and Fiona Danks, 2012
Frances Lincoln Ltd
www.franceslincoln.com
ISBN-10: 0711232415
ISBN-13: 978-0711232419

Plantes toxiques : un guide pour les parents et les animateurs

Ce guide pratique est le résultat d'une collaboration de 16 années entre les Jardins botaniques royaux de Kew et l'Unité antipoison de l'hôpital de Guy et St Thomas. Écrit par des spécialistes en botanique et en toxicologie, ce livre offre des informations sur les 130 plantes les plus toxiques qui peuvent être rencontrées au Royaume-Uni, à la maison, dans les jardins ou à la campagne, ainsi qu'un résumé des principaux symptômes si elles sont touchées ou ingérées par erreur. Des photos des plantes sont incluses pour aider l'identification, et un bref guide des plantes sans danger propose des idées pour la création d'un jardin sans risques.

para niños. Su libro, titulado en inglés *Natural Playscapes*, le inspirará a diseñar y crear espacios de juego al aire libre, fáciles, naturales y emocionantes para los niños pequeños sin necesidad de equipos complejos. Su objetivo es animar a los niños a explorar el mundo natural al tiempo que estimula sus habilidades sensoriales y su imaginación. Las 314 páginas contienen 500 fotografías a color, junto con ilustraciones y diagramas. Una vista previa gratis de las secciones favoritas del autor está disponible para su descarga en http://earthplay.net/natural_playscapes_preview.pdf

Rusty Keeler, 2007, Exchange Press
<https://secure.ccie.com>
ISBN-10: 0942702476
ISBN-13: 978-0942702477

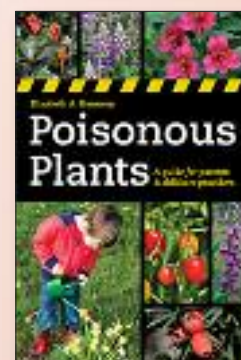
El Libro de las varitas: Montones de cosas que puedes construir o hacer con una varita.

Una varita es un juguete universal y ofrece oportunidades ilimitadas para aventuras y juegos al aire libre. ¡Las varitas también son naturales, gratis y muy fáciles de encontrar en un jardín botánico! Este libro le proporcionará montones de ideas para usar palitos y varitas en una amplia gama de actividades que incluyen actividades al aire libre, juegos creativos, artesanía en madera, música y conservación.

Jo Scholfield and Fiona Danks, 2012
Frances Lincoln Ltd
www.franceslincoln.com
ISBN-10: 0711232415
ISBN-13: 978-0711232419

Plantas Venenosas: Una Guía para Padres y Proveedores de Atención Infantil

Esta guía es el resultado de de 16 años de colaboración entre el Royal Botanic Gardens, Kew y el Guy's & St Thomas's Hospital Poisons Unit. Escrito con autoridad en botánica y toxicología, este libro ofrece detalles concisos de las 130 plantas más venenosas que pueden ser encontradas en el Reino Unido, en el hogar, el jardín



Elizabeth A. Dauncey, 2010, Royal Botanic Gardens, Kew
www.kew.org
ISBN-10: 184246406X
ISBN-13: 978-1842464069

Nature and Young Children: Encouraging creative play and Learning in Natural Environments

This book provides useful ideas for creative play and learning in the natural environment aimed at early years practitioners. The author offers suggestions for the kind of materials that can be used to promote children's observation, exploration and dramatic play, as well as guidance on what early years practitioners can do to help children meet early development and academic goals through outdoor learning activities. The author also aims at fostering environmentally responsible attitudes, values and behaviours in children. The guide is a tool to help educators find the right approach in nurturing a sense of love and respect for nature in young people.

Ruth, Wilson, 2007
Routledge
www.routledge.com
ISBN-10: 0-415-42872-6
ISBN-13: 978-0415-42872-9

WEBSITES

Natural Play Info Packet

<http://naturalplay.wordpress.com/resources/>

This information packet introduces us to the concept, the characteristics and the importance of natural play areas. Children's sensory experience is fundamental in their development and outdoor playing stimulates children's creativity, independency, confidence, pride and sense of wonder.

Together with interesting ideas for the use of space, materials and activities, the information packet also provides some great examples of places suitable and enjoyable for children, not all expressly designed as playgrounds and some examples of how material and form might relate to children's emotional response.

Elizabeth A. Dauncey, 2010,
Royal Botanic Gardens, Kew
www.kew.org
ISBN-10: 184246406X
ISBN-13: 978-1842464069

La nature et les jeunes enfants: encourager des jeux créatifs et l'apprentissage dans des environnements naturels

Ce livre donne de bonnes idées de jeux créatifs et d'apprentissages dans des environnements naturels pour les éducateurs de jeunes enfants. L'auteur suggère différents matériaux qui peuvent être utilisés pour encourager



l'observation, l'exploration et le jeu de rôle chez les enfants, ainsi que des conseils sur ce que les enfants peuvent faire pour aider les jeunes enfants à atteindre des objectifs de développement précoce et des objectifs académiques, à travers des activités de plein air. L'auteur vise également à encourager des attitudes, valeurs et comportements

responsables vis-à-vis de l'environnement chez les enfants. Ce guide est un outil pour aider les éducateurs à trouver la bonne approche pour créer un sentiment d'amour et de respect pour la nature chez les jeunes gens.

Ruth, Wilson, 2007
Routledge
www.routledge.com
ISBN-10: 0-415-42872-6
ISBN-13: 978-0415-42872-9

SITES WEB

Infos sur les jeux nature

<http://naturalplay.wordpress.com/resources/>

Ce document d'information nous présente le concept, les caractéristiques et l'importance des zones naturelles de jeux. L'expérience sensorielle des enfants est fondamentale pour leur développement, et les jeux de plein air stimulent la créativité, l'indépendance, la confiance, l'estime de soi et le sens du merveilleux chez les enfants.

y el campo. Incluye con un resumen de los síntomas probables que producen en caso sean tocada o ingeridas accidentalmente. Se incluyen fotografías de cada planta para facilitar su identificación y una breve guía de plantas seguras que ofrece sugerencias para la creación de un jardín libre de peligros.

Elizabeth A. Dauncey, 2010, Royal Botanic Gardens, Kew
www.kew.org
ISBN-10: 184246406X
ISBN-13: 978-1842464069

Naturaleza y Niños Pequeños: Fomentando el juego creativo y el aprendizaje en ambientes naturales

Este libro ofrece ideas útiles para el juego creativo y el aprendizaje en ambientes naturales dirigido a educadores de grados iniciales. El autor ofrece sugerencias sobre el tipo de materiales que pueden ser utilizados para promover en los niños la observación, la exploración y el juego dramático. También brinda orientación sobre lo que los educadores de grados iniciales pueden hacer para ayudar a los niños a satisfacer el desarrollo temprano y las metas académicas a través de actividades de aprendizaje al aire libre. El autor también tiene como objetivo fomentar en los niños actitudes, valores y comportamientos responsables con el ambiente. La guía es una herramienta para ayudar a los educadores a encontrar el enfoque correcto para nutrir un sentido de amor y respeto por la naturaleza en la gente joven.

Ruth, Wilson, 2007
Routledge
www.routledge.com
ISBN-10: 0-415-42872-6
ISBN-13: 978-0415-42872-9

VINCULOS

Paquete de Información para el Juego Natural

<http://naturalplay.wordpress.com/resources/>

Este paquete de información nos introduce en el concepto, las características y la importancia de las áreas de juego naturales. La experiencia

Forestry Commission Resources

The Forestry Commission is the UK government's department responsible for the protection and expansion of Britain's forests and woodlands. For a number of years, it has been working on projects concerned with children's play and outdoor learning across the UK, often involving schools, local authorities, parents, carers and other organisations. As a result, useful information has been produced and several guides and reports are available on the website for educators and those involved in the design of children's gardens and playgrounds. A few of these resources are highlighted below.

Nature Play. Simple and fun ideas for all

www.forestry.gov.uk/forestry/INFD-7LSEHW

This practical guide on nature play offers fun, simple and cost effective examples of play ideas from easily sourced materials. Through photographs, it illustrates clearly to practitioners and partner organisations what is meant by nature play.

Design guidance for play spaces

[www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/\\$FILE/fce-design-guidance-for-play-spaces.pdf](http://www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/$FILE/fce-design-guidance-for-play-spaces.pdf)

This eight page guide sets out the principles for developing play spaces on UK Forestry Commission land.

It highlights the importance of putting together a multi-disciplinary team to ensure successful implementation of play spaces and the value of listening to the needs of people who will use the spaces. The aim of the guide is to encourage the

creation of naturalistic play spaces that will act as springboards for children's engagement with forests and woodlands as a whole, encouraging children to explore the natural environment and to take part in active play where they have the opportunity to create their own play environments and activities.



En plus d'idées intéressantes sur l'utilisation de l'espace, de matériaux et d'activités, ce document fournit d'excellents exemples d'endroits adaptés et agréables pour les enfants, même s'ils ne sont pas tous conçus expressément comme des terrains de jeux, ainsi que des exemples de comment les matériaux et les formes peuvent agir sur les émotions des enfants.

Ressources de l'Office des forêts

L'Office des forêts est le service du gouvernement responsable de la protection et du développement des forêts et des zones boisées, au Royaume-Uni. Depuis un certain nombre d'années, cet Office a travaillé sur des projets de jeux d'enfants et d'activités éducatives de plein air à travers le Royaume-Uni, souvent en lien avec des écoles, collectivités territoriales, parents, éducateurs et autres organisations. Ainsi, des informations utiles ont été produites et plusieurs guides et rapports sont disponibles sur le site pour les éducateurs et ceux impliqués dans la conception de jardins et de terrains de jeux pour enfants. Certaines de ces ressources sont présentées ci-dessous.

Jeux nature. Des idées simples et amusantes pour tous

<http://www.forestry.gov.uk/forestry/INFD-7LSEHW>

Ce guide pratique sur les jeux nature propose des exemples simples et peu coûteux de jeux réalisables avec des matériaux faciles à trouver. Grâce à des photos, il illustre clairement, pour les personnes concernées et les organisations partenaires, ce qu'est un « Jeu nature ».

Conseils pour la conception d'espaces de jeux

[http://www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/\\$FILE/fce-design-guidance-for-play-spaces.pdf](http://www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/$FILE/fce-design-guidance-for-play-spaces.pdf)

Ce guide de huit pages présente les principes pour développer des espaces de jeux sur les domaines de l'Office des forêts. Il souligne l'importance de mettre en place une équipe multidisciplinaire pour assurer une mise en place réussie d'espaces de jeux, et combien il est essentiel d'écouter les besoins de ceux

sensorial de los niños es fundamental en su desarrollo y jugar al aire libre estimula en los niños la creatividad, la independencia, el orgullo y la capacidad de maravillarse.

Junto con ideas interesantes para el uso del espacio, materiales y actividades, el paquete de información también ofrece algunos grandes ejemplos de lugares adecuados y agradables para los niños, no del todo expresamente diseñados como parques infantiles y algunos ejemplos de cómo el material y la forma pueden relacionarse con la respuesta emocional de los niños.

Comisión de Recursos Forestales

La Comisión Forestal del gobierno del Reino Unido es el departamento responsable de la protección y expansión de los bosques y terrenos forestales de Gran Bretaña. Desde hace varios años, ha trabajado en proyectos relacionados con juegos y aprendizaje al aire libre para niños en aquel país, involucrando con frecuencia a las escuelas, autoridades locales, padres de familia, cuidadores y otras organizaciones. Como resultado, se ha producido información útil y varias guías e informes están disponibles en el sitio web para los educadores y todas aquellas personas involucradas en el diseño de jardines y parques infantiles. Algunos de estos recursos se destacan a continuación.

Juego en la Naturaleza. Ideas simples y divertidas para todos

<http://www.forestry.gov.uk/forestry/INFD-7LSEHW>

Esta guía práctica sobre el juego en la naturaleza, nos ofrece ejemplos divertidos, simples y rentables de juegos a partir de materiales fáciles de obtener. Se busca ilustrar con claridad, mediante fotografías, a los profesionales y organizaciones asociadas, qué se entiende por juego en la naturaleza.

Guía para el Diseño de Espacios de Juego

[http://www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/\\$FILE/fce-design-guidance-for-play-spaces.pdf](http://www.forestry.gov.uk/pdf/fce-design-guidance-for-play-spaces.pdf/$FILE/fce-design-guidance-for-play-spaces.pdf)

Esta guía de ocho páginas expone los principios para el desarrollo de espacios

Rope swings, dens. A risk based approach for managers facilitating self-built play structures and activities in woodland settings.

[www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/\\$FILE/fce-rope-swings-dens-fires.pdf](http://www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/$FILE/fce-rope-swings-dens-fires.pdf)

Provision of spaces where children are allowed to make their own choices in a natural setting helps to deepen their engagement with, and understanding and appreciation of, those settings. This document offers ideas and guidance for a risk based approach for managers facilitating self-built play structures and activities in woodland settings.

How to involve children and young people in designing and developing play space

www.participationworks.org.uk/resources/how-to-involve-children-and-young-people-in-designing-and-developing-play-spaces

The importance of involving children and young people in the design and development of play spaces is widely recognized and the benefits are evident to those involved in the process. Participation Works, a consortium of organisations working with children and young people up to the age of 25, have produced this guide which offers a six-stage design cycle for creating and designing play spaces and advice for engaging children and young people in the process.

Design for play: A guide to creating successful play spaces

<http://www.freeplaynetwork.org.uk/pubs/design-for-play.pdf>

This comprehensive guide starts from the premise that play should be at the heart of children's everyday lives and experiences throughout childhood. Aimed at commissioners and designers of children's play areas, it includes information on how to design good play spaces that can be affordably maintained. The guide also aims to



qui utiliseront ces espaces. L'objectif de ce guide est d'encourager la création d'espaces naturels de jeux qui serviront à développer l'intérêt des enfants pour la forêt et les zones boisées dans leur ensemble, encourageant les enfants à explorer l'environnement naturel et à s'impliquer dans des jeux actifs où ils pourront créer leur propre environnement ludique et leurs activités.

Balçoires en cordes et cabanes. Une approche basée sur les risques pour les gestionnaires, facilitant l'auto-construction de structures de jeux et activités dans les zones boisées

[http://www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/\\$FILE/fce-rope-swings-dens-fires.pdf](http://www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/$FILE/fce-rope-swings-dens-fires.pdf)

La mise à disposition d'espaces où les enfants ont le droit de faire leur choix dans un environnement naturel permet de développer leur implication, compréhension et appréciation de cet environnement. Ce document propose des idées et des conseils pour une approche basée sur les risques pour les gestionnaires, facilitant l'auto-construction de structures de jeux et d'activités dans les zones boisées.

Comment impliquer les enfants et les jeunes dans la conception et le développement d'espaces de jeux

www.participationworks.org.uk/resources/how-to-involve-children-and-young-people-in-designing-and-developing-play-spaces

L'importance d'impliquer les enfants et les jeunes dans la conception et le développement d'espaces de jeux est reconnue et les avantages sont incontestables pour ceux impliqués dans ce processus. « La Participation marche », un regroupement d'organisations travaillant avec des enfants et des jeunes de moins de 25 ans, a produit ce guide qui propose une démarche en six



étapes pour créer et concevoir des espaces de jeux, ainsi que des conseils pour impliquer les enfants et les jeunes dans ce processus.

de jeu en los terrenos de la Comisión Forestal del Reino Unido. La Guía destaca la importancia de armar un equipo multidisciplinario para garantizar la construcción e implementación exitosa de los espacios de juego, así como lo valioso que resulta escuchar las necesidades de las personas que utilizarán dichos los espacios. El objetivo de esta guía es fomentar la creación de espacios de juego naturalistas, que actúen como trampolines de la relación de los niños con los bosques y tierras forestales en su conjunto, animando a los niños a explorar su entorno natural y a tomar parte en juegos activos, que les brinden la oportunidad de crear sus propias actividades y entorno de juego.

Columpios de cuerda, guaridas. Un enfoque basado en riesgos dirigido a administradores para facilitar la autoconstrucción de juegos y actividades en entornos forestales

[http://www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/\\$FILE/fce-rope-swings-dens-fires.pdf](http://www.forestry.gov.uk/pdf/fce-rope-swings-dens-fires.pdf/$FILE/fce-rope-swings-dens-fires.pdf)

Proveer a los niños de espacios donde se les permite tomar sus propias decisiones en un entorno natural, les ayuda a profundizar su compromiso, comprensión y apreciación de y en esos lugares. Este documento ofrece orientación e ideas

dentro de un enfoque basado en riesgos dirigido a los administradores para facilitar la autoconstrucción de juegos y actividades en entornos forestales.

¿Cómo involucrar a niños y jóvenes en el diseño y desarrollo de espacio de juego?

www.participationworks.org.uk/resources/how-to-involve-children-and-young-people-in-designing-and-developing-play-spaces

La importancia de involucrar a los niños y jóvenes en el diseño y desarrollo de espacios de juego es ampliamente reconocida y los beneficios son evidentes para todos los involucrados en el proceso. Participation Works, un consorcio de organizaciones que



challenge providers to think more laterally and creatively about children and young people in the public domain. Divided into four sections, this guide focuses on 1) inspiring play spaces 2) designing places for play and making other spaces more 'playable' 3) design specification and management issues and 4) further information. It is a valuable resource for gardens wishing to provide good play experiences for children and encourage a greater sense of place.

www.wordle.net

Would you like help in jazzing up your educational materials, powerpoint presentations, websites and/or publications? If yes, take a look at Wordle. This is a free piece of software for generating 'word clouds' from text. The clouds give greater prominence to words that appear more frequently in the source text. It's very easy to use and you can even tweak your clouds with different fonts, layouts and colour schemes.



Concevoir pour jouer : un guide pour créer des espaces de jeux réussis

www.freeplaynetwork.org.uk/pubs/design-for-play.pdf

Ce guide exhaustif part du principe que le jeu devrait être au cœur de la vie quotidienne des enfants et de leurs expériences à travers l'enfance. A l'intention des conservateurs et concepteurs de terrains de jeux d'enfants, il comprend des informations sur comment concevoir de bon espaces de jeux qui peuvent être entretenus sans grands frais. Le guide vise également à encourager les fournisseurs à penser aux enfants et aux jeunes dans le domaine public de manière plus ouverte et créative. Décliné en quatre sections, le guide se concentre sur 1) inspirer des espaces de jeux ; 2) concevoir des endroits pour jouer et rendre les autres espaces plus ludiques 3) les questions de cahier des charges dans la conception et la gestion et 4) autres informations. C'est une ressource de valeur pour les jardins qui souhaitent fournir des expériences de jeux intéressantes pour les enfants et développer un sentiment du lieu.

www.wordle.net

Souhaiteriez-vous de l'aide pour égayer votre matériel éducatif, vos présentations power-point, sites internet et/ou autres publications ? Si oui, venez voir Wordle. C'est un logiciel gratuit pour faire des « nuages de mots » à partir de textes. Ces nuages donnent une plus grande importance aux mots qui apparaissent fréquemment dans le texte de base. Il est très facile à utiliser et il est même possible de modifier ces nuages avec des options de police, mise en page et couleur.

trabajan con niños y jóvenes de hasta 25 años, han elaborado esta guía que ofrece un ciclo de diseño de seis etapas para la creación y diseño de espacios de juego, así como consejos para involucrar a los niños y jóvenes en el proceso.

Diseño para el juego: Una guía para la creación de espacios exitosos para juegos

<http://www.freeplaynetwork.org.uk/pubs/design-for-play.pdf>

Esta guía completa parte de la premisa de que el juego debe estar en el corazón de la vida cotidiana de los niños y de las experiencias de la infancia. Dirigida a los encargados y diseñadores de áreas de juegos infantiles, la guía incluye información sobre cómo diseñar espacios de juego adecuados, que puedan ser fácilmente mantenidos y cuidados. La guía también busca retar a los proveedores a pensar más lateralmente y de forma creativa sobre los niños y jóvenes en el dominio público. La guía está dividida en cuatro secciones y se centra en: 1) los espacios inspiradores de juego, 2) el diseño de lugares para jugar y cómo hacer otros espacios más "jugables", 3) características de diseño y temas de gestión y 4) mayores detalles. Es un recurso valioso para los jardines que deseen proporcionar buenas experiencias de juego a los niños y fomentar un mayor sentido de pertenencia.

www.wordle.net

¿Quieres ayuda para dar un atractivo mayor a tus materiales educativos, presentaciones en PowerPoint, sitios web y/o publicaciones? Si es así, echa un vistazo a Wordle. Este es un software gratuito para generar "nubes de palabras" a partir de un texto. Las nubes dan mayor realce a las palabras que aparecen con mayor frecuencia en el texto original. Es muy fácil de usar e incluso puedes ajustar las nubes con diferentes fuentes, diseños y esquemas de color.

Growing the Social Role of Botanic Gardens – join the conversation



Follow the **Communities in Nature** blog to find out how educators from four botanic gardens in the UK will develop individual projects to grow their organisations' social relevance.

<http://communitiesinnature.wordpress.com>





BGCI

Plants for the Planet

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