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Catalogue of bicycle evaluation criteria:

BDT

Bicycle Drawing Test

Diederich, C. & Merten, T. (2012)

Diederich, C. & Merten, T. (2012). BDT. Bicycle Drawing Test [Verfahrensdokumentation, Katalog mit Bewertungskriterien Deutsch, Katalog mit Bewertungskriterien Englisch, Protokollbogen Deutsch und Englisch]. In Leibniz-Institut für Psychologie (ZPID) (Hrsg.), Open Test Archive. Trier: ZPID.

<https://doi.org/10.23668/psycharchives.4533>

All information and materials about the measure can be found at:

<https://www.testarchive.eu/en/test/9006149>

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Unveröffentlichtes Manuskript, Berlin, 2008

Christina Diederich und Thomas Merten

The scoring criteria of Lezak, Howieson & Loring (2004, S. 551f.) and Nichols (1980) were used; this paper contains more detailed scoring instructions developed by the authors.

Catalogue of bicycle evaluation criteria:

Key

✓: point awarded, ✗: no point awarded, ½: half point awarded

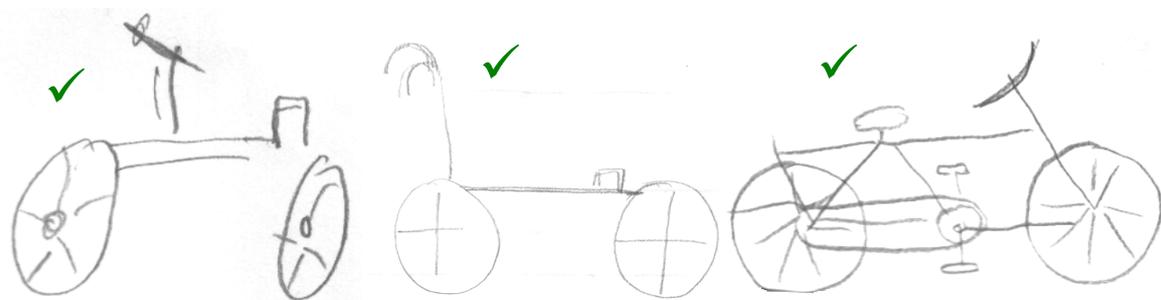
1. Two wheels

Precense of precisely two circular and rounded shapes. (This criterion is not valid for frontal or rear view drawings).



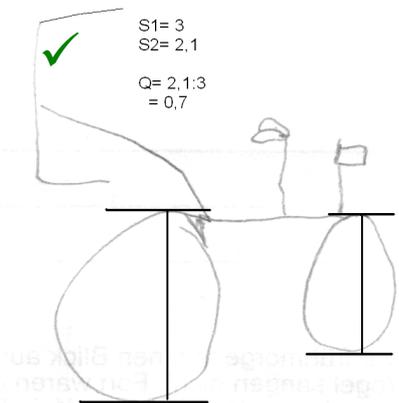
2. Spokes on wheels

At least two lines per wheel which roughly intersect the centre of the circles. Alternatively: at least 3 lines per wheel extending from the centre of the circle to its edge.



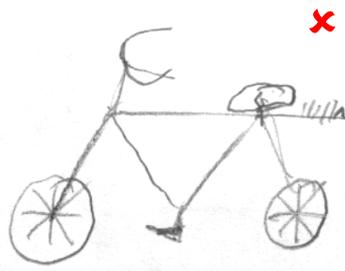
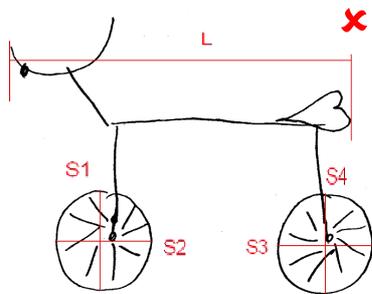
3. Wheels approximately the same size (at least 3:5)

The comparative ratio of wheel sizes, where measurement of the wheels is taken from their outer edges, must not be less than 3:5 (0.6). If the wheel form is heavily distorted (e.g. more elliptical than round) then the vertical height of the wheel should be measured. All measurements must be accurate to the millimetre.



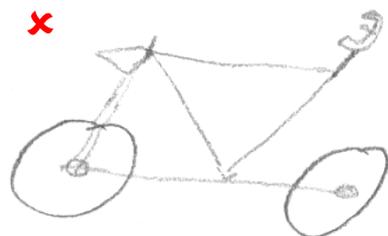
4. Relative sizes of wheels and bike

The average value of the 4 lengths ($S = [S1 + S2 + S3 + S4] / 4$) must be at least one third of the total bike length (L). Any detailing of tyres, mudguards or panniers must not be taken into account when measuring these lengths.



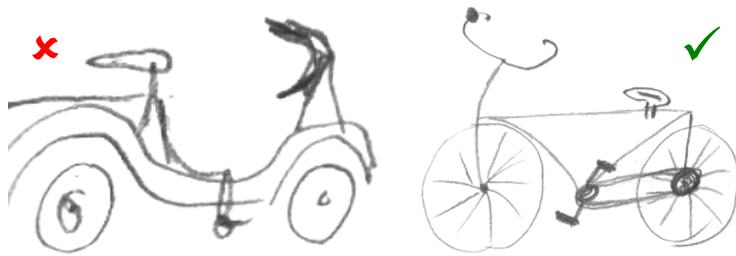
5. Connection between handlebars and front axle

A clear connection has been drawn between the front wheel axle and the handlebars respectively the fork/ handlebar support bar / steering rod.



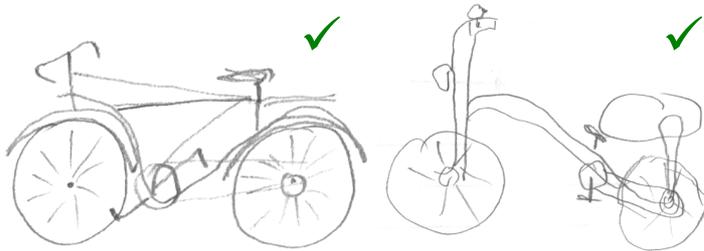
6. Rear axle connected to seat or seat shaft

There is a clearly defined upward connector between the rear axle and the seat. **Fig X** can be credited as it lies within a reasonable tolerance.



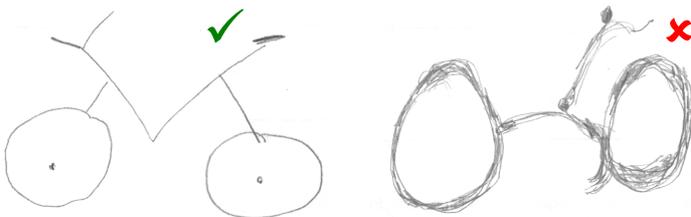
7. Handle bars

Presence of a drawn element above one of the wheels which is identifiable as a set of handlebars.



8. Seat

The presence of an extended drawn element (e.g. triangle, oval or circle) above one of the two wheels. If an ambiguous element is drawn above the wheels which could be either a seat or handlebars, a point is awarded under item 7.



9. Pedals connected to bike frame at rear

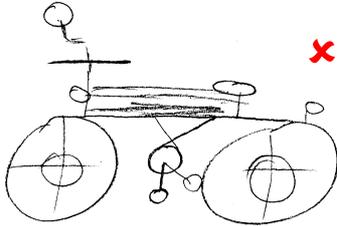
There is a connection between the pedals and the rear part of the bike frame near the seat or roughly above the rear axle. At least one pedal must be drawn to merit the point.



10. Pedals connected to bike frame at front

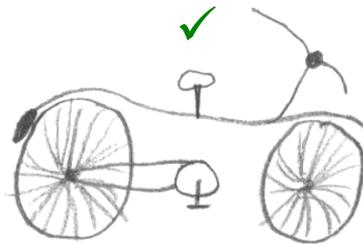
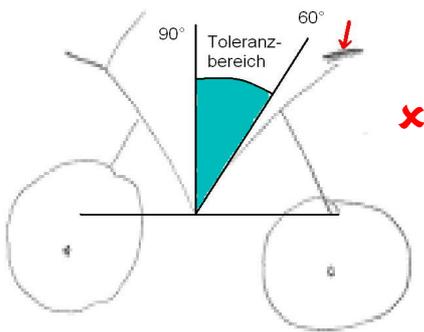
There is a connection between the pedals with the front part of the bike frame near the handlebars. At least one pedal must be drawn to merit the point.

N.B. The bike in **Fig X** does not receive a point under item 10. however under item 9. it presents a special case: both is possible.



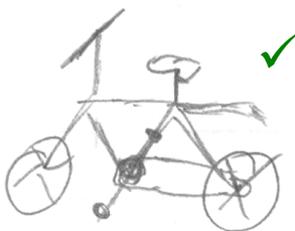
11. Seat is connected to the pedals in a functionally feasible way (not too far forward or behind).

The seat is located no further forward (towards handlebars) than in line with the pedals (**see Fig X**). The seat is also located no further backwards than the angled tolerance range which is defined as 60 to 90 degrees from a horizontal line which intersects the pedal axle. The upper middle point of the seat is taken as its location. At least one pedal must be drawn to merit the point.



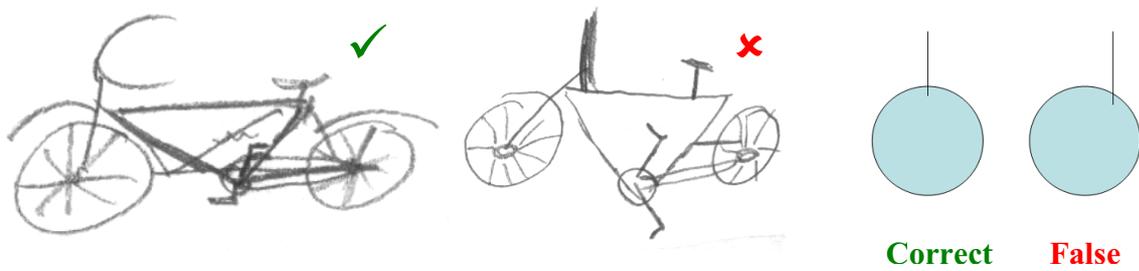
12. Two pedals (1/2 point each)

There is a drawn intensification or special element at the end of two short lines which extend away from the driving gear (or from the equivalent position if the gear has not been drawn). The drawn intensification must be at least double the thickness of the lines leading to them.

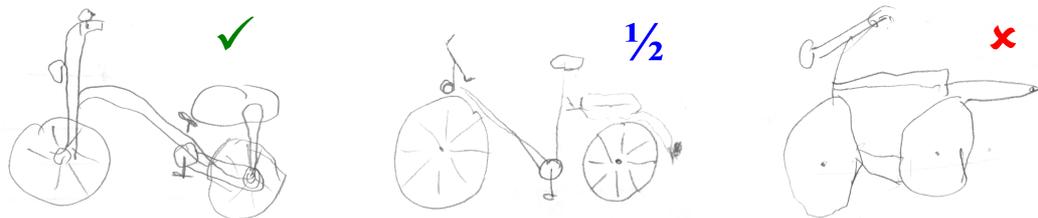


13. Pedals correctly positioned in relation to the turning mechanism.

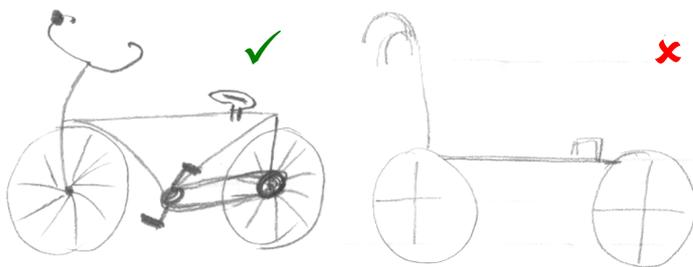
The pedal 'crank arm' lines must be collinear and therefore at 180 degrees to one another. The tolerance allowance is defined as collinear within 30 degrees. The pedal lines must also project through the centre of the driving gear (**see Fig X**). At least one pedal must be drawn to merit the point.



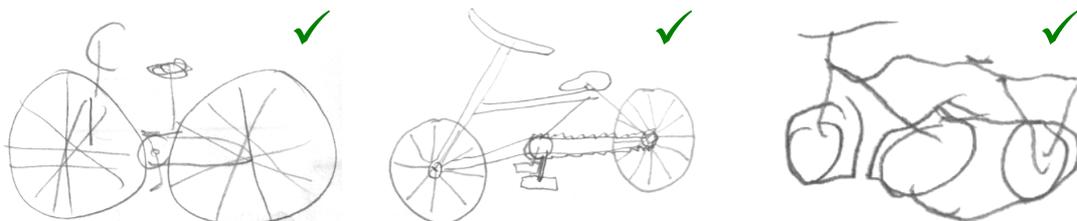
14. Gears indicated (full point for chain wheel and sprocket – half point for just one)
 A circular form can be identified between the two wheels as the chain wheel. A smaller **(!!)** or equal wheel must be distinguishable at the rear axle (i.e. the sprocket). (Half) a point can be awarded when items 9, 10, 12 and 13 did not merit points.



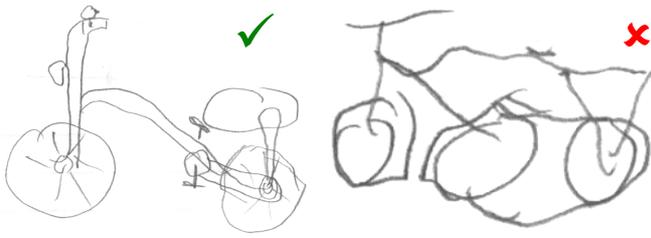
15. Correctly positioned upper support frame bar
 A line connects the seat and the handlebars (or handlebar-/seat support bar). This line must not connect to the wheels. Women's bicycles without the upper support frame bar do not receive a point. If the seat and/or handlebars are not drawn but the upper support bar is correctly positioned, then the point is still merited.



16. Chain
 Presence of a closed elliptical form between both wheels. The point is awarded even if the chain wheel, sprocket or pedals have not been drawn.



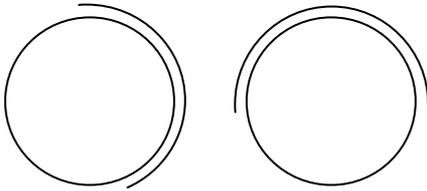
17. Accurate connection of drive chain
 The chain runs from the drive wheel to the rear sprocket and encloses them both. A point is also awarded if the chain encloses the chain wheel while the other end is no longer visible. The point is not awarded if items 14 or 16 also didn't merit points.



18. Two fenders

Presence of two additional lines running concentrically with the wheels and towards the bike. The length of the fenders must be at least one quarter of the wheel's perimeter length. The fender is positioned between the top and the rear of the wheel (see Fig X). No point is awarded for just one fender.

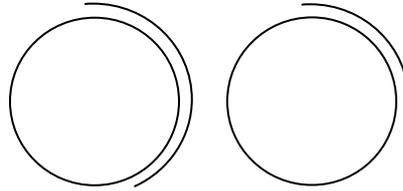
Bike heading right:



Correct

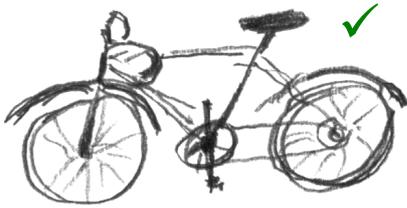
False

Bike heading left:



Correct

False



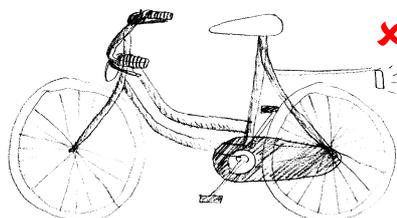
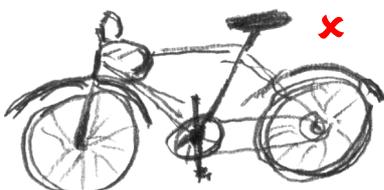
19. Lines properly connected

There are few excessively long or shortened lines (one fifth of all intersections at most).



20. No transparencies

This point can be awarded if the bike is not a stick drawing (see item 19). The drawn surfaces must not be overlapped by elements or lines that are located behind them.



References

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