
**Dealer Points
Considered Harmful**



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The Justification for Dealer Points

Rule 8(d) of *The “Real” Rules of Dixony* reads as follows:

If a player has been disadvantaged by some error on the dealer’s part (such as losing a submitted definition, or posting it in such a way that it is clear that it is fake), the dealer has discretion to award dealer points to that player as compensation. ⚡

The symbol ⚡ at the end of this rule indicates that it is based on established practice, but that there is no basis for the practice in the official 1990 rules. Overwhelming precedent is to award two dealer points.

This paper sets out to explain why the awarding of dealer points is a bad idea that all too often has the effect of penalizing the player it is supposed to compensate.

A Player’s “Expected Score”

Your “expected score” is the average score that you can expect to achieve over a large number of games if you vote entirely at random and never do things that harm your cumulative average score, such as voting for your own definition, submitting a def but failing to vote or vice versa, and DQing.

In *The Statistics of Dixony* you can read how a player’s “expected score” E is derived. Here, you are invited to take it on trust that

$$E = g + v$$

where g is the number of points that a player can expect to earn from guessing correctly, and v is the number of points that a player can expect to earn from voting. In turn, the values of v and g are given by:

$$g = \frac{4}{n-1} \quad \text{and} \quad v = \frac{2(n-1)}{n}$$

where n is the number of players in the round (counting the dealer). As you can see, the expected score in a round depends on the number of players.

How it works out in practice is shown for a few round sizes in the following table (for now, ignore the rightmost *Dealer Points* column in green):



<i>Number of players</i> n	<i>Points from guessing</i> g	<i>Points from votes</i> v	<i>Expected score</i> $E = g+v$	<i>Dealer Points</i> $E'' = g+2$
17	0.2500	1.8824	2.1324	2.2500
19	0.2222	1.8947	2.1170	2.2222
20	0.2105	1.9000	2.1105	2.2105
21	0.2000	1.9048	2.1048	2.2000
23	0.1818	1.9130	2.0949	2.1818
25	0.1667	1.9200	2.0867	2.1667

This table says that in a series of rounds with 20 players (shaded row), including the dealer, a player who votes purely randomly can, on average, expect to earn $g = 0.2105$ points from guessing correctly (which equates to slightly over one correct guess per 10 rounds), and another $v = 1.9$ points from votes, assuming everyone else votes randomly too.

The Effect of Awarding Dealer Points

Now, if a player's def is lost or mangled, then that player loses the ability to earn points from votes, and so $v = 0$ and $E' = g$. That being so, it might seem perfectly reasonable to grant a player 2 dealer points as compensation for the loss of v . If you run your eye down the column v (blue) you will see that the value hovers just under 2.

This value never reaches 2 no matter how many players. Of course, in any given round, a player may well earn more than 2 points from other players' votes. But in the long run, with random play, the average will forever hover somewhere under 2.

So a fixed value of 2 might seem a very fair way to deal with a lost definition. The last column (green) of the table above, $E'' = g+2$, shows the effect of granting 2 dealer points as compensation for v . In each case, players who get compensation appear to be slightly better off than they would have been if their def had been posted and they had been able to collect votes, as shown in the column E immediately to the left.

But that applies purely to random play. Players do not, in fact, vote randomly; otherwise their scores would never deviate much from E .

Now just for a moment suppose that players who consistently score above E do so primarily because they consistently fool other players



into voting for them (and not because they are good guessers). If that is true, and if a player's cumulative average score is higher than the value in the last column (say, as a rule of thumb, about 2.2), then granting two dealer points has the effect of a penalty.

For example, in a round with 21 players, awarding 2 dealer points to a player leaves him or her with $E'' = 2.2$. If that player's cumulative average is 2.5, then granting 2 dealer points has the effect of a 0.3-point penalty.

And this is not an unusual situation. Half of the regular players have a cumulative average above 2.2. So, half of the players would be better off if the dealer were to remain silent in public about the lost definition (though properly contrite in private, of course), and to treat the player as having sat out the round.

But what about the contribution that guessing correctly makes to a player's score? Doesn't that affect the argument?

One way to approach this is to remember that a player's point count from guessing correctly is capped at 2. Imagine a bad player who consistently writes garbage definitions that nobody in their right mind would vote for, but who consistently cheats and looks the word up. That player's average score, despite wholesale cheating, could never rise above a very middling 2. This capping affects all players equally, but it has a stronger effect on writers of good defs, because if $E = g + v$, then as a player's average score rises above E , so an increasing contribution must come from writing good definitions, because the guessing component g is capped but the voting component v is not.

Put briefly, even taking the points earned from guessing into account, if a player's average score is higher than 2.2, then awarding 2 dealer points still has the effect of a penalty. If the player has a strong track record of correct guesses, the penalty may be less than the 0.3 in the example, but it still exists, and affects the strongest players the most.

Of course, if a player insists on being counted in the round, by voting, the dealer has no option but to count the votes and then, to be fair, should also award the dealer points. And if your average score is less than about 2.2, this is the rational approach to adopt.

But if your average score in the round is higher than that, you really should think twice before claiming dealer points and voting.